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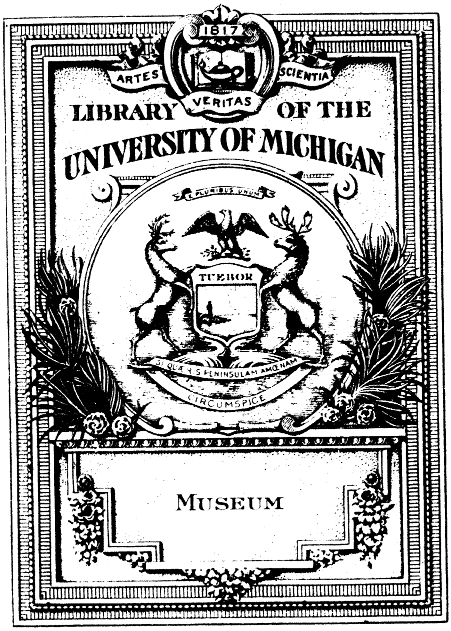

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BULLETINS

OF THE

PHILIPPINE MUSEUM

I

On Birds from Luzon, Mindoro, Masbate, Ticao, Cuyo, Culion, Cagayan Sulu, and Palawan

By Richard C. McGregor

Issued January 10, 1903

MANILA:
BUREAU OF PUBLIC PRINTING.
1903.

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Museum

ON BIRDS FROM LUZON, MINDORO, MASBATE, TICAO, CUYO, CULION, CAGAYAN SULU, AND PALAWAN.

By Richard C. McGregor.

This paper is the first of a proposed series of reports on collections made for the Philippine Museum, an institution established by an act of the Philippine Commission. It summarizes the more important results of: (1) Five weeks collecting at Mariveles, Bataan Province, Luzon; (2) various two-day trips about Manila; (3) three months in Ticao and Masbate; (4) a hurried visit to the Islands of Mindoro, Cuyo, Culion, Cagayan Sulu, and Palawan.

But one of the species obtained appears to be new. The discovery, near Manila, of the males of Grant's two Luzon Orioles and the extension of the range of *Cinnyris whiteheadi* are most interesting.

The nomenclature in this paper follows that of the first three volumes of Sharpe's Hand List and the Catalogue of Birds.

The work has been directed by Commissioner Dean C. Worcester, Secretary of the Interior, to whom the author is indebted for the use of books and assistance in many ways.

ZOOGRAPHICAL NOTES.

CAGAYAN SULU.

The avifauna of this island has heretofore been known only from the small collection of birds made during the short stop of the yacht *Marchesa* and subsequently described by Guillemard. We were able to collect here for only two days during a brief stop of the Government steamer *General Alava*. The two highest hills of the island are crowned with small patches of forest and its eastern portion is in places somewhat thickly covered with brush and a few forest trees. By far the greater part of the island is overgrown with a tall grass known as "cogon," although there are somewhat extensive banana plantations and cocoanut groves. During our short stay we collected two specimens of *Uroloncha fuscans*. This capture is of interest, not only as adding a species to the Philippines but also because it furnishes an additional indication that the island is Bornean (cf. Worcester, Proc. U. S. N. M., XX, p. 574). In all, twelve species were added to the known avifauna of Cagayan Sulu, but none of the others throws any new light upon the zoological relationships of the birds of this little known island.

CUYO.

Only five species of birds have been heretofore recorded from this island. Cuyo is without forest properly so called, but has a number of mangrove swamps, numerous cocoanut groves and mango trees, and is in many places well covered with brush. But a part of one afternoon was devoted to collecting, the *General Alava,* on which we were journeying, arriving at noon of one day and sailing at daybreak on the following morning. During this short time twenty-two species were added to the known avifauna of the island. Of these a *Chibia* is here described as new. A *Cinnyris* identical with or closely allied to *C. aurora* of Palawan and the Calamianes group was seen but not collected. The only mammal collected was a *Tupaia* somewhat closely allied to *T. javanica* Horsf. of Palawan and the Calamianes Islands, but clearly distinguished from the latter species by its conspicuously larger size. The meager evidence at hand suggests the conclusion that Cuyo belongs to the Balabac-Palawan-Calamianes group, but that some of its species of birds and mammals have undergone considerable modification during a long-continued period of isolation. The island is worthy of more careful study than has been given it, and full collections will be made at the earliest convenient opportunity.

TICAO.

Ticao, a small, well-wooded island to the northeast of Masbate and midway between that island and Luzon, had not been visited by a collector previous to our trip there, and its zoögraphical position was therefore unknown. Our collections prove that it belongs with the central Philippine group (Panay, Guimaras, Negros, Masbate), and that its avifauna is most nearly like that of Masbate. With the exception of four species of wide distribution, every land bird taken in Ticao has been or is here recorded from Masbate. On the other hand, of the following sixteen characteristic central Philippine species, known from Masbate, twelve were taken in Ticao.

Characteristic central Philippine species known from Masbate and Ticao.

Species.	Masbate.	Ticao.
Phabotreron nigrorum	×	×
Spilornis panayensis	×	
Penelopides panini	×	×
Loriculus regulus	×	×
Xantholaema roseum	×	
Chrysocolaptes xanthocephalus	×	×
Dicrurus mirabilis	×	×
Oriolus nigrostriatus	×	
Aethopyga bonita	×	×
Dicaeum dorsale	×	
Zosterops nigrorum	×	×
Hyloterpe winchelli	×	×
Orthotomus castaneiceps	×	×
Cittocincla superciliaris	×	×
Artamides panayensis	×	×
Rhipidura albiventris	×	×

Ticao, like Masbate, shows a slight relationship to Luzon in the presence of *Ceyx cyanipectus* and *Dicaeum rubriventer* (cf. Worcester, l. c. pp. 577 and 578).

NEW SPECIES.

Chibia Cuyensis n. sp.

Sp. chars.—Similar to *Chibia palawanensis* Tweed., but larger; bill much longer and deeper.

Type.—No. 24, male (?) Philippine Museum collection. Cuyo Island, Philippines, collected December 11, 1901, by R. C. McGregor and A. Celestino.

Description of type.—Wings, tail, and upper tail coverts dark glossy green; all other parts dark blue black; feathers of crown, nape, and breast tipped with metallic blue black; the spangles broader on the head, narrower on the breast; back slightly metallic; tail feathers but slightly graduated, tip of outer one curved upward and outward. Total length, 12 inches.

Female.—Like male but a little smaller.

Measurements.

Species.	Wing.	Tail.	Tarsus.	Culmen.	Bill from nostril.	Depth of bill at angle of gonys.	Middle toe with claw.
C. cuyensis (type)	5.95	4.98	1.10	1.26	0.93	0.48	1.15
C. cuyensis (female)	5.92	*4.78	1.10	1.24	.89	.47	1.02
C. palawanensis (male)	5.40	4.71	1.08	.89	.76	.40	.95

*Tail not fully grown.

SPECIES NEW TO THE PHILIPPINES.

Querquedula querquedula (*Linn.*).—A male was killed at Taguig on the Laguna de Bay, Luzon, January 12, 1902. February 6 a live pair said to have come from Laguna were purchased in a Manila market.

Spatula clypeata (*Linn.*).—A fine plumaged male and a male in immature plumage, found in the Manila market February 4, 1902, were said to have been shipped from Nueva Ecija, Luzon. A male in immature plumage was killed March 16, 1902, by Dr. F. S. Bourns near Orani, Bataan Province, Luzon. Others were seen at the same time and several specimens were reported to have been killed at the Laguna de Bay.

Phalacrocorax carbo (*Linn.*).—A female specimen of this cormorant was taken near Hermosa, Bataan, February 2, 1902. A cormorant, very likely of this species, was seen at the northern end of Ticao Island, April 11, 1902.

Tachornis infumata (*Scl.*).—A series of seven small forked-tailed swifts from Ticao Island add another genus and species to the Philippine list. As *Tachornis infumata* ranges over Burma and the Malay Peninsula to Borneo and Java it might have been expected to reach these islands.

Our specimens agree well with the descriptions (Cat. B, XVI, p. 468), except in being somewhat smaller in wing and tail, as may be seen by the following measurements:

Locality.	Length, about.	Wing.	Lateral rectrices.	Central rectrices.
Asia[1]	4.5	4.6	2.2	1.3
Ticao, 4 males	4.37	4.44	1.98	1.22
Ticao, 3 females	4.33	4.47	2.00	1.26

[1] From Catalogue of Birds.

NOTE.—In the description of *T. batassiensis* (l. c., p. 466) the lateral rectrices are given as 3.5, which would place it under "a^1 lateral rectrices more than 3 inches in length * * * *parva* and allies" in the key, where the species does not belong. The length given is probably a slip for 2.5 inches.

Uroloncha fuscans (*Cass.*).—A pair of this species were shot from a flock on Cagayan Sulu, December 14, 1901.

Sturnia sinensis (*Gm.*).—A skin of a male of this species was brought to the museum by a Manila taxidermist. He tells me that it was killed at Malabon, near Manila, on March 13, 1902.

UNDESCRIBED PLUMAGES.

Caprimulgus griseatus Wald.—This species is represented in the collection by five specimens taken at Mariveles, Bataan Province, Luzon, the latter part of February. One marked female was undoubtedly incorrectly sexed. The sexes differ about as in *C. affinis*. The female is apparently undescribed and for the sake of bringing out the differences in the sexes the wing and tail of the male are here more fully described than in the Catalogue of Birds.

Male.—Rectrices; two external pairs, including shafts, white at ends for almost 2 inches, the tips of outer pair mottled on outer web to a greater or less extent with brown, which may invade the inner web and in some cases is indicated on the second pair. Primaries; first four marked at their middle with a pure white spot which is narrowly bordered with rich fulvous; white of first primary on inner web only, but reaching to shaft, which is dark brown. Extending for nearly an inch on the outer web and opposite the white spot is a narrow edge of fulvous. On the second, third, and fourth primaries the white spot extends across both webs, the section of shaft included being more or less white as well.

Female.—Rectrices; all but two middle pairs marked with bars of dark brown and pale fulvous, the webs notched and margined with pale fulvous. The bars are very irregular and almost obsolete on the margins of the rectrices. At tip of outer pair on the inner web is an ill defined spot of pale fulvous gray. Shafts dark brown, but light at tips. A partly grown outer tail feather has the gray replaced with pure white and the shaft is white for half an inch at the tip. Primaries; first with a spot of pale fulvous on inner web, not reaching to shaft; a fulvous edge to outer web as in the male, shaft dark brown. Second, third, and fourth each with a spot of pale fulvous extending across both webs. In some specimens these spots are more or less white near their centers. Shaft of second primary is dark brown or it may be partly white on the section included in the fulvous spot as are the shafts of the third and fourth.

Measurements.

Sex.	Wing.	Tail.	Tarsus.
Male	6.74	4.04	0.70
Male	6.28	3.73	.70
Male[1]	6.65	3.88	.70
Female	6.46	3.78	.73
Female	6.48	3.96	.67

[1] Marked female, but undoubtedly a male.

I fully agree with Mr. Ogilvie Grant that the plate of this species (Cat. Bds., XVI, Pl. XI) does not represent the coloration. All of our specimens are gray with none of the bright rufous on head and breast which the illustration shows.

Oriolus albiloris Grant.—As the type of this species, a female, seems to be unique, it gives me pleasure to present a description of the adult male from a single specimen collected near Mariveles, Bataan Province, Luzon, at not over 500 feet elevation.

Above, including exposed parts of wing except tips of primaries, dark golden yellow, brighter and clearer on rump and upper tail coverts; top of head a little duller than back. Lower parts rich golden yellow; lower throat and breast dusky; flank feathers with distinct dusky median stripes. Lores conspicuously white, the white extending backward to below center of eye; white on chin very indistinct. Webs of primaries dusky brown; outer web edged with olive yellow; inner web brown, broadly edged with clear golden yellow for basal half or more; secondaries similar but the outer webs entirely yellow; lining of wing clear yellow. Tail slightly rounded; webs olive yellow, each feather except central pair with a clear yellow terminal spot and a dark brown subterminal spot on inner web; the yellow spots increasing and the dark spots decreasing in size from the outer to the inner feather; shafts bright yellow, white at base. Colors of soft parts in flesh. Iris pinkish mottled with gray as in *O. chinensis;* bill dark reddish brown, with a dark brown spot on basal portion of lower mandible; legs dark horn blue; nails horn brown.

The measurements of this specimen are given under the next species.

Oriolus isabellae Grant.—Like *O. albiloris,* this species was described from a single female and no more have been reported.

Male.—Ad. Mariveles, Bataan, Luzon. Above dark yellow, slightly tinged with olive, the rump slightly lighter, the head slightly darker. Eyelids and entire lower parts bright yellow. Primaries and secondaries dark brown broadly edged with olive yellow, the inner web broadly edged with clear pale yellow on basal half or more. Tail dark olive yellow, inner webs edged with lighter yellow; the outer pair narrowly tipped on inner web with pale yellow; shafts clear yellow, pale toward bases. Colors of soft parts in flesh. Iris carmine; bill, legs and nails plumbeous blue.

A female taken in the same locality is similar to the male.

Measurements of Oriolus isabellae and O. albiloris.

No.	Species.	Sex.	Date.	Length.	Wing.	Tail.	Exp. culmen.	Bill from nostril.	Tarsus.	Middle toe with claw.
722	O. isabellae	Male	Mar. 14	8.50	[1]4.27	[1]3.15	0.96	0.73	0.87	0.89
492	do	Female	Feb. 22	8.25	[1]4.20	[1]3.16	.96	.74	.90	.83
635	O. albiloris	Male	Mar. 5	8.00	4.47	2.94	.75	.55	.80	.87

[1] Feathers more or less worn.

These two species of *Oriolus* are easily distinguished from one another by the great difference in size and color of bill, as well as by the markings of the tail and the presence or absence of dark stripes on the flanks.

Orthotomus chloronotus Grant.—The type, from Cabo Engaño, Northern Luzon, appears to be the only specimen known of this species. Two males, taken at Mariveles, Bataan Province, Luzon, agree with the description (Grant, Ibis, 1896, p. 117) of the type, which is also a male. The female, which is similar to the male, is here described from a Mariveles skin collected February 27, 1902.

Female adult.—Like the male but throat and breast less gray, probably an individual difference. Top and sides of head, including eye, and thighs, dull chestnut; back, wings, upper and under tail coverts, and a wash on flanks rich olive green, the wings a little lighter than back; feathers of cheeks, ear-coverts, throat and breast white, narrowly and irregularly edged with gray; belly white; greater wing coverts a little yellowish forming an indefinite light area; bastard wing edged with light chestnut; edge of wing and a wash on the white wing lining and axillaries, bright lemon yellow; quills dark brown broadly edged on their inner webs with pale buff; tail feathers rufous brown edged on basal half with yellowish green, and, except central pair, narrowly tipped with pale yellowish. Colors of soft parts in flesh. Iris light brown; bill horn brown, lower mandible much the lighter; legs, feet and nails light horn brown.

Measurements of O. chloronotus from Mariveles.

Sex.	Wing.	Tail.	Culmen.	Tarsus.
Male	1.94	1.80	0.70	0.82
Male	1.95	1.77	.67	.78
Female	1.95	1.61 (!)	.67	.82

NOTES ON SOME OF THE RARER SPECIES.

Nettopus coromandelianus (Gm.).—The Luzon records for this duck are increased by two males killed by Commissioner Worcester at Morong, on Laguna de Bay, the latter part of December, 1901.

Fuligula fuligula (Linn.).—The Luzon record of this species rests upon three young birds taken by Maitland-Heriot at Laguna de Bay. We have a pair of adults taken, in January, at Jala Jala, on the same lake.

Collocalia marginata Salvad.—The Luzon record of this species has rested up to this time upon a specimen collected by Herr Othberg, doubtfully marked Manila. Last winter we were fortunate in getting four specimens at Mariveles. These measure as follows:

Number.	Date.	Sex.	Wing.	Tail.	Tarsus.
622	Mar. 4	Male	4.04	1.60	0.33
638	Mar. 5	Female	3.95	1.56	.36
485	Feb. 20	Female	4.05	1.55	.36
581	Feb. 27	Female	3.83	1.60	.32

Cinnyris whiteheadi Grant.—January 5, 1902, at Jala Jala, on Laguna de Bay, we shot a full plumaged male of this black-backed sun-bird and from the same clump of bushes a male of *C. sperata* in moult from worn young (?) plumage to the adult. At Mariveles, Bataan, in February and March I killed from the same flower bush two males of *C. whiteheadi* and many of *C. sperata*. It is evident, then, that the ranges of these two species overlap for at least the distance from Mariveles to Jala Jala and that the two forms, closely allied as they are, may occur at one time in the same territory.

Anthothreptes griseigularis Tweed.—This form has been recorded from Mindanao, Sakuyok, and Samar and was taken by Whitehead in Northern Luzon in the Provinces of Lepanto and Isabela. For some reason these Luzon records are omitted from Bourns and Worcester's distribution list (Proc. U. S. N. M., XX). Grant suggests that "probably it is met with only at considerable elevations." The capture by us of three males and a female at not over 500 feet elevation in Bataan Province may therefore be of interest.

Cittocincla superciliaris (Bourns and Worcester).—Five male *Cittocinclæ,* two from Ticao and three from Masbate, and evidently belonging to this species, yield some characters not given in the original description. By Bourns and Worcester the wide superciliary strip is considered the most noticeable difference between *C. superciliaris* and *C. luzoniensis.* In our single Luzon male from Mariveles this white stripe is quite as pronounced as in any of the central island specimens at hand, and, moreover, is weakly joined to its fellow of the opposite side by a few white feathers across the forehead. In two specimens of *superciliaris* there are small white tips on the three outer rectrices, tho' reduced to a small dot on the third pair; another shows spots on two pairs; yet another with badly damaged tail retains but one of the outer three pairs of feathers and it is white tipped. The remaining specimen has a fully grown and unworn tail but, curiously, shows not a trace of white. Three of the specimens show a few concealed white feathers in middle of lower back as noted in *C. nigrorum* (cf. Grant, Ibis, 1896, p. 547). The bend of the wing is black; in no case white as stated in the original description. The species is readily distinguished from *C. luzoniensis* by the black rump, upper tail coverts, and wing coverts, by the paler flanks, and by the almost total suppression of white on the tail. The tarsus measure, 0.86, given in the original description, is evidently an error. Extremes and averages of five males of *C. superciliaris* from Masbate and Ticao are as follows: Wing, 3.08 to 3.28 (average, 3.15); tail, 2.65 to 2.85 (average, 2.72); exposed culmen, 0.56 to 0.61 (average, 0.58); tarsus, 1.04 to 1.12 (average 1.08).

I found this species not at all the silent bird described by Bourns and Worcester. The males were heard singing nearly every day, but kept so well to the bush that it required considerable time and patience to get specimens.

Cyanomyias coelestis (Tweed.).—A male of this beautiful blue flycatcher was killed near Mariveles on March 14, the same day and from a small tree next the one from which I shot the male *Oriolus isabellae* half an hour later.

NEW LOCALITIES FOR KNOWN SPECIES.

The following species are now authentically recorded for the first time, it is believed, from the localities named:

LUZON.

Spatula clypeata (Linn.).
Querquedula querquedula (Linn.).
Phalacrocorax carbo (Linn.).
Sturnia sinensis (Gm.).
Cyanomyias coelestis (Tweed.).

MINDORO.

Leucotreron leclancheri (Bp.).

CULION.

Fregata ariel (Gould).
Motacilla melanope Pall.
Anthothreptes malaccensis (Scop.).

PALAWAN.

Spilopelia tigrina (Temm.).

CAGAYAN SULU.

Columba griseigularis (Walden and Layard).
Amaurornis phoenicura (Forster).
Anous stolidus (Linn.).
Fregata ariel (Gould).
Butastur indicus (Gm.).
Alcedo ispida (Linn.).
Collocalia francica (Gm.).
Eudynamis sp. inc.
Centropus sinensis (Stephens).
Uroloncha fuscans (Cass.).
Hemichelidon griseisticta (Swinh.).
Hirundo gutturalis Scop.

CUYO.

Sterna bergii Licht.
Charadrius dominicus (P. L. S. Müller).
Ochthodromus geoffroyi (Wagler).
Numenius arquatus (Linn.).
Limosa novae zelandiae Gray.
Totanus calidris (Linn.).
Heteractitis brevipes (Vieil.).
Tringoides hypoleucus (Linn.).
Demiegretta sacra (Gm.).
Bubulcus coromandus (Bodd.).
Butorides javanica (Horsf.).
Haliastur intermedius Gurney.
Alcedo ispida Linn.
Halcyon chloris (Bodd.).
Calornis panayensis (Scop.).
Chibia cuyensis *n. sp.* antea.
Oriolus chinensis Linn.
Lanius lucionensis Linn.
Artamus leucogaster (Wagler).
Monticola solitaria (P. L. S. Müller).
Hemichelidon griseisticta (Swinh.).
Hirundo gutturalis Scop.

MASBATE.

Osmotreron axillaris (Bp.).
Amaurornis olivacea (Meyn).
Caprimulgus manillensis Wald.
Xantholaema roseum (Dumont).
Corone philippina Bp.
Motacilla flava Linn.
Parus elegans Lesson.
Megalurus ruficeps Tweed.
Iole philippinensis (Gm.).
Lalage terat (Bodd.).

TICAO.

Megapodius cumingi Dillwyn.
Excalfactoria lineata (Scop.).
Gallus gallus (Linn.).
Osmotreron axillaris (Bp.).
Phabotreron nigrorum Sharpe.
Carpophaga aenea (Linn.).
Myristicivora bicolor (Scop.).
Streptopelia dussumieri (Temm.).
Chalcophaps indica (Linn.).
Hypotaenidia torquata (Linn.).
Poliolimnas cinereus (Vieil).
Amaurornis olivacea (Meyers).
Gallicrex cinerea (Lath.).
Ochthodromus mongolus (Pallas).
Aegialitis peroni (Bp.).
Aegialitis alexandrina (Linn.).
Tringoides hypoleucus (Linn.).
Rhyacophilus glareola (Gm.).
Gallinago sp ?
Demiegretta sacra (Gm.).
Bubulcus coromandus (Bodd.).
Butorides javanica (Horsf.).
Pyrrherodias manillensis (Meyers).
Ardetta cinnamomea (Gm.).
Gorsachius melanolophus (Raffles).
Nycticorax manillensis Vig.
Dendrocygna arcuata Horsf.
Anas luzonica Fraser.
Phalacrocorax carbo Linn.
Circus sp. inc.
Haliaetus leucogaster (Gm.).
Haliastur intermedius Gurney.
Loriculus regulus Souancé.
Chrysocolaptes xanthocephalus Walden and Layard.
Corone philippina Bp.
Sarcops calvus (Linn.).
Calornis panayensis (Scop.).
Dicrurus mirabilis Walden and Layard.
Oriolus chinensis Linn.
Munia jagori Martens.
Alauda gulgula Franklin.
Motacilla melanope Pallas.
Motacilla flava Linn.
Anthus rufulus Vieil.
Aethopyga bonita Bourns and Worcester.
Cinnyris sperata (Linn.).
Cinnyris jugularis (Linn.).
Anthothreptes chlorigaster Sharpe.
Dicaeum rubriventer Lesson.
Dicaeum pygmaeum (Kittlitz).
Zosterops nigrorum Tweed.
Parus elegans Lesson.
Hyloterpe winchelli Bourns and Worcester.
Lanius lucionensis Linn.
Artamus leucogaster (Wagler).
Phylloscopus borealis (Blasius).
Pratincola caprata (Linn.).
Megalurus ruficeps Tweed.
Megalurus palustris Horsf.
Orthotomus castaneiceps Walden.

TICAO—*continued.*

Ninox philippensis Bp.
Eurystomus orientalis (Linn).
Pelargopsis gigantea Walden.
Ceyx cyanipectus (Lafr.).
Halcyon gularis (Kuhl).
Halcyon chloris (Bodd.).
Penelopides panini (Bodd.).
Caprimulgus manillensis Wald.
Tachornis infumata (Scl.).
Collocalia troglodytes Gray.
Cacomantis merulinus (Scop.).
Eudynamis mindanensis (Linn.).
Centropus viridis (Scop.).
Cacatua haematuropygia (P. L. S. (Müller).
Prioniturus discurus (Vieill).
Tanygnathus luconensis (Linn.).
Cisticola exilis (Vig. and Horsf.).
Monticola solitaria (P. L. S. Müller).
Copsychus mindanensis (Gm.).
Cittocincla superciliaris Bourns and Worcester.
Iole philippinensis (Gmelin).
Pycnonotus goiavier (Scop.).
Artamides panayensis Steere.
Lalage terat (Bodd.).
Hypothymis occipitalis Vig.
Rhipidura nigritorquis Vig.
Rhipidura albiventris Sharpe.
Cyornis philippinensis Sharpe.
Hirundo gutturalis Scop.
Hirundo javanica Sparrman.
Pitta erythrogaster Temm.

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BULLETINS

OF THE

PHILIPPINE MUSEUM

II

LIST OF BIRD SKINS OFFERED IN EXCHANGE

MANILA:
BUREAU OF PUBLIC PRINTING.
1903.

1823

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EXPLANATORY NOTE.

The Philippine Commission has passed an act providing for the establishment of a Museum of Ethnology, Natural History, and Commerce, and has made a preliminary appropriation to be used in the gathering of material pending the erection of a suitable museum building for the housing of exhibits and the preservation of study specimens. Systematic collecting of the birds and mammals of the Archipelago was begun some months since, and will be steadily prosecuted. Series of species of birds and mammals at present known will be secured as rapidly as may be possible, and collecting operations will be extended to regions which have not hitherto been visited. The establishment of a Coast Guard Service of twenty staunch steam vessels makes it possible to land, and to call for, collectors at points which have hitherto been nearly or quite inaccessible.

The collections thus far secured were obtained on a trip made by the Secretary of the Interior and the Commissioner of Public Health in search of a site for a leper colony, during which the Islands of Mindoro, Cuyo, Cagayan de Jolo, Palawan, and Culion were briefly visited, and by some weeks of systematic collecting in the Province of Bataan (Luzon), and on the Islands of Ticao and Masbate.

Except in case of the rarest species, only first-class skins will be sent out, and no others will be received in exchange. The Philippine Museum especially desires to secure representative collections of bird skins from Borneo, the Moluccas, Formosa, and the Asiatic coast region adjacent to the Philippines, preference being given to the species of genera known to be represented in the Philippine Archipelago.

Where lists of desiderata are furnished, effort will be made to secure the material desired as the different parts of the Archipelago are reached by our collectors. Especial attention is being given to the securing of large series of specimens of the more interesting species.

Communications should be addressed to the Philippine Museum, Manila, P. I.

DEAN C. WORCESTER,
Secretary of the Interior.

LIST OF BIRD SKINS OFFERED IN EXCHANGE.

PHASIANIDÆ.

Excalfactoria lineata (Scop.).
Gallus gallus (Linn.). Male.

TURNICIDÆ.

Turnix fasciata (Temm.). Male and female.

TRERONIDÆ.

Osmotreron vernans (Linn.). Male.
Osmotreron axillaris (G. R. Gray). Male and female.
Phabotreron leucotis (Temm.). Male.
Phabotreron nigrorum Sharpe. Male and female.
Leucotreron leclancheri (Bp.). Male.
Carpophaga aenea (Linn.). Male and female.
Myristicivora bicolor (Scop.). Male.

PERISTERIDÆ.

Streptopelia dussumieri (Temm.). Male.
Geopelia striata (Linn.).. Male and female.
Chalcophaps indica (Linn.). Male and female.

RALLIDÆ.

Hypotaenidia torquata (Linn.). Male and female.
Poliolimnas cinereus Sharpe. Male.
Gallicrex cinerea (Gm.). Male.
Podiceps philippensis (Bonn.). Male and female.

ARDEIDÆ.

Bubulcus coromandus (Bodd.). Male.
Butorides javanica (Horsf.). Male and female.
Pyrrherodias manillensis (Meyers). Male.
Ardetta cinnamomea (Gm.). Male.

ANATIDÆ.

Dendrocygna arcuata (Horsf.). Male and female.
Anas luzonica Fraser. Male and female.
Querquedula querquedula (Linn.). Male.
Spatula clypeata (Linn.). Male.

FALCONIDÆ.

Microhierax erythrogenys (Vig.). Male.

BUBONIDÆ.

Ninox philippensis Bp. Male.

CACATUIDÆ.

Cacatua haematuropygia (P. L. S. Müller). Female.

PSITTACIDÆ.

Prioniturus discurus (Vieill.). Male and female.
Prioniturus cyaneiceps Sharpe. Male.
Prioniturus luzonensis Steere. Male.
Tanygnathus luzonensis (Linn.). Male and female.
Bolbopsittacus lunulatus (Scop.). Female.
Loriculus philippensis (P. L. S. Müller). Male and female.
Loriculus regulus Souancé. Male and female.

CORACIIDÆ.

Eurystomus orientalis (Linn.). Male and female.

ALCEDINIDÆ.

Pelargopsis gigantea Walden. Female.
Alcedo ispida Linn. Female.
Ceyx cyanipectus (Lafresaye). Male and female.
Halcyon gularis (Kuhl.). Male and female.
Halcyon chloris (Bodd.). Male and female.

BUCEROTIDÆ.

Penelopides panini (Bodd). Male and female.

MEROPIDÆ.

Merops bicolor Bodd. Male and female.
Merops philippinus Linn. Male and female.

CAPRIMULGIDÆ.

Caprimulgus manillensis Tweed. Male and female.
Caprimulgus griseatus Tweed. Male and female.

MACROPTERYGIDÆ.

Macropteryx comata (Temm.). Male.

CYPSELIDÆ.

Tachornis infumata (Scl.).
Collocalia fuciphaga (Thunberg). Male.
Collocalia francica (Gm.). Male.
Collocalia troglodytes Gray. Female.
Collocalia marginata Salvad. Female.

CUCULIDÆ.

Cacomantis merulinus (Scop.). Male.
Eudynamis mindanensis (Linn.). Male.
Centropus viridis (Scop.). Male and female.
Dryococcyx harringtoni Sharpe. Male.
Dasylophus superciliosus (Cuvier). Male and female.

CAPITONIDÆ.

Xantholaema haematocephalum (P. L. S. Müller). Male.
Xantholaema roseum (Dumont). Male.

PICIDÆ.

Iyngipicus validirostris Blyth. Male and female.
Chrysocolaptes haematribon (Wagler). Female.
Chrysocolaptes xanthocephalus (Walden & Layard). Male and female.
Microstictus funebris Tweed. Male and female.
Thriponax javensis (Horsf.). Male.

PITTIDÆ.

Pitta erythogastra Temm. Male and female.
Pitta atricapilla Lesson. Male and female.

MUSCICAPIDÆ.

Hemichelidon griseisticta (Swinhoe). Male and female.
Cyornis philippinensis (Sharpe). Male and female.
Gerygone simplex Cabanis. Male and female.
Hypothymis occipitalis (Vig.). Male.
Rhipidura nigritorquis Vig. Male.
Rhipidura albiventris Sharpe. Male and female.
Zeocephus rufus (G. R. Gray). Female.

CAMPOPHAGIDÆ.

Artamides striatus (Bodd.). Male and female.
Artamides panayensis (Blyth.). Male and female.
Lalage terat (Bodd). Male and female.

PYCNONOTIDÆ.

Chloropsis palawanensis Sharpe. Male and female.
Iole philippensis (Gm.). Male and female.
Microtarsus melanocephalus (Gm.). Male.
Pycnonotus goiavier (Scop.). Male and female.
Pycnonotus cinereifrons Tweed. Male.

ARTAMIDÆ.

Artamus leucogaster (Wagler). Male and female.

STURNIDÆ.

Acridotheres cristatellus (Gm.). Male.
Sarcops calvus (Linn.). Male and female.
Calornis panayensis (Scop.). Male and female.

ORIOLIDÆ.

Oriolus chinensis Linn. Male and female.

PLOCEIDÆ.

Munia jagori Martens. Male.
Munia cabanisi Sharpe. Male and female.

ALAUDIDÆ.

Alauda gugula Franklin. Male and female.
Mirafra philippinensis W. Ramsay. Male.

MOTACILLIDÆ.

Motacilla flava Linn. Male and female.
Anthus rufulus Vieil. Male and female.

PARIDÆ.

Parus elegans Lesson. Male and female.
Parus semilarvatus (Salvad.). Male.

LANIIDÆ.

Hyloterpe winchelli Bourns & Worcester. Male and female.
Lanius lucionensis Linn. Male and female.
Lanius nasutus Scop. Male and female.

DICRURIDÆ.

Dicrurus balicassius (Linn.). Female.
Dicrurus mirabilis Walden & Layard. Male and female.
Buchanga palawanensis Whitehead. Male and female.

CERTHIIDÆ.

Rhabdornis mystacalis (Temm.). Male.
Dendrophila mesoleuca Grant. Female.

NECTARINIIDÆ.

Aethopyga shelleyi Sharpe. Male.
Aethopyga bonita Bourns & Worcester. Male.
Aethopyga flavipectus Grant. Male.
Cinnyris sperata Linn. Male and female.
Cinnyris jugularis (Linn.). Male.
Cynnyris aurora (Tweed). Male and female.
Cynnyris whiteheadi Grant. Male.
Anthothreptes malaccensis (Scop.). Male.
Anthothreptes griseigularis Tweed. Male and female.

MELIPHAGIDÆ.

Zosterops nigrorum Tweed. Male and female.

DECAEDÆ.

Dicaeum rubriventer Lesson. Male and female.
Dicaeum dorsale Sharpe. Male.
Dicaeum pygmaeum (Kittlitz). Male and female.
Prionochilus inexpectatus Hartert. Male.
Piprisoma aeruginosum (Bourns & Worcester). Male.

TIMELIIDÆ.

Megalurus ruficeps Tweed. Male and female.
Megalurus palustris Horsf. Male and female.
Orthotomus castaneiceps Sharpe. Male and female.
Orthotomus chloronotus Grant. Male.
Cisticola exilis (Vig. & Horsf.). Male and female.
Copsychus mindanensis (Gm.). Male.
Cittocincla superciliaris Bourns & Worcester. Male.

TURDIDÆ.

Monticola solitaria (P. L. S. Müller). Male and female.

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PHILIPPINE MUSEUM

BIRDS FROM BENGUET PROVINCE, LUZON, AND FROM THE ISLANDS OF LUBANG, MINDORO, CUYO, AND CAGAYANCILLO

BY RICHARD C. MCGREGOR

No. 3

Issued January 30, 1904

MANILA:
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BIRDS FROM BENGUET PROVINCE, LUZON, AND FROM THE ISLANDS OF LUBANG, MINDORO, CUYO, AND CAGAYANCILLO.

By Richard C. McGregor.

INTRODUCTORY NOTE.

In this paper, which is the second in the series of reports on zoölogical collections made for the Philippine Museum, are recorded all identified species of birds collected or observed on recent expeditions to the Islands of Lubang, Verde, Cagayancillo, and Agutaya, and to the Province of Benguet, Luzon; also species recently secured in Cuyo and Mindoro, which are believed to be new to those islands.

As a result of lack of necessary literature, it has proved impossible to identify certain of the species collected. This is especially the case with the birds of prey. These unidentified species will be listed in a supplementary paper after the receipt of the literature which we at present lack.

As in the first paper of this series, the nomenclature of this paper follows closely that of Sharpe's Hand List and of the Catalogue of Birds.

The work of collecting has been directed by Commissioner Dean C. Worcester, Secretary of the Interior, to whom the author is indebted for the use of literature and other assistance. Mr. Chas. W. Richmond has kindly examined and identified specimens of several species.

ZOOGRAPHICAL NOTES.

LUBANG.

The Lubang Group lies west of Cape Santiago, Luzon, and north of Cape Calavite, the western point of Mindoro. The group as a whole is nearer Mindoro than Luzon. Lubang Island is about 20 miles from the Batangas coast and but little more than half that distance from the nearest point in Mindoro. Lubang is approximately 15 miles long by 6 wide. In the central part of the island are mountains of moderate altitude well covered with forest. Near the coast are extensive rice fields and grassy hills. Two small streams enter the sea near Port Tilig, and at their mouths are more or less extensive mangrove swamps, the resorts of kingfishers, golden-eyes, doves, flycatchers, and various species of water birds. Extensive tide flats tempt thousands of waders to make Lubang their winter headquarters. Several interesting species of birds were seen, but not secured, notably a fish hawk, two species of herons, and a small swift, the nest of which was found in a rocky cave. During our stay, from October 18 to November 8, we found the weather fine, although a strong wind, blowing almost continuously, interfered to some extent with collecting.

The forests on Lubang are poor in birds. Many of the flycatchers common in Luzon were rare or lacking. The most persistent search failed to reveal *Ceyx* of any kind. *Pycnonotus*, *Orthotomus*, and the hornbills seem to be absent, and none of the parrots was seen. The woodpeckers, except *Iyngipicus*, were conspicuous by their absence.

At the end of the present paper are recorded seventy-five species for Lubang. With a single exception, *Anthothreptes chlorigaster*, these are all known from Luzon, and the occurrence of the following characteristic Luzon species leads us to group Lubang with Luzon, Marinduque, and Catanduanes:

Dicæum rubriventer.
Zosterops meyeni.
Iole philippinensis.
Artamides striatus.

Columba griseigularis, which was secured in Lubang, has not yet been recorded from Mindoro.

MINDORO.

Nearly the entire month of December, 1902, was spent in Mindoro, the first stop being at Puerto Galera, at which point the forest is easily reached from the beach. Before doing much here we moved to Calapan with the hope of reaching some of the small islands south and east of Mindoro. The launch upon which we counted was so busy that we finally changed our plans, went to Verde Island for two days, and then returned to Manila by way of Puerto Galera and Batangas.

Sixteen of the species collected are believed to be new to the Mindoro fauna, although all of them are already known from Luzon. The rare swift, *Collocalia marginata*, and the spoonbill, *Spatula clypeata*, were noted from Luzon in my last paper.

VERDE.

Verde is a small island in mid-channel between Mindoro and Luzon. There are doubtless many more species on the island than we obtained during our two-days' visit, but the presence of *Dicæum rubriventer*, *Zosterops meyeni*, and *Iole philippinensis*, and the absence of the peculiar Mindoro species, indicate that Verde is a detached fragment of Luzon.

CUYO.

We first visited Cuyo in December, 1901, securing a number of species new to the island and specimens of a *Chibia* which was described as new. On our way to Cagayancillo in January, 1903, and again on our return from that island in March of the same year, we did some additional collecting while waiting for transportation. None of these are of interest except a *Scops*, not yet identified, and a *Cinnyris*, which, as suspected, is identical with the Palawan form (*C. aurora*). Additional specimens of *Chibia cuyensis* confirm the characters already given. (Bull. Phil. Mus. No. 1, p. 5.)

AGUTAYA.

Agutaya is a small island of the Cuyos Group lying a short distance north of Cuyo. In less than an hour spent on the beach we noted eight species. Several specimens of *Cinnyris aurora* are identical with our Cuyo and Culion examples. There are neither streams nor forest on the island, and it is probable that nothing of importance will be found there.

CAGAYANCILLO.

Cagayancillo is the largest island of the group known as the Cagayanes. Cuyo lies 75 miles to the northwest; the southernmost point of Panay is 45 miles to the northeast, while the Negros coast is some 55 miles due east. If the existing charts are reliable, the Cagayanes Islands are separated from Panay, Negros, and Cuyo by deep water; in fact, deep water is shown all about the group, but a chain of small islands, bars, and shoals extending southwest from the Cagayanes is suggestive of a former closer connection in that direction. Cagayancillo is some 5 miles long by 1 mile wide, and in no part attains an elevation of more than a few hundred feet. Over the whole island is scattered rough coral rock, and on the shore in many places are masses of coral "rag," now dark from exposure, but showing a snowy white interior when broken. The entire southern side of the island is bordered by a long crescent-shaped reef, inside of which is an excellent harbor for small vessels, once they have passed through the narrow and tortuous channel. The vegetation is scanty. Along the beach are the ever-present cocoanut trees. Occasional fine mangos, small clumps of bamboo, some mangrove, and various scrubby trees, together with masses of rank grass and tall weeds, make up the most noticeable floral features. There are no streams and but little marshy ground.

From the fact that we were able to reach every point on the island, I feel reasonably certain that we secured nearly every species of land bird which occurs there. A night heron (*Nycticorax*) and the gannet (*Sula*) were the only species seen and not collected. While most of the species of Cagayancillo are common, wide-ranging forms, a few are most interesting. *Cinnyris aurora* has been known only from the Balabac-Palawan-Calamianes Group and the Cuyos. *Zosterops* is a genus, and *Hypotænidia torquata*, *Rallina euryzonoides*, *Limnobænus fuscus*, *Hierococcyx fugax*, and *Centropus viridis* are species *not* recorded from the

Palawan Group, but known from Negros and Mindanao. *Carpophaga pickeringi* is known from the Sulu Group.

The faunæ of Cuyo and Cagayancillo are distinct. In Cuyo we find *Ninox*, *Scops*, and *Chibia;* in Cagayancillo we find *Zosterops* and *Carpophaga.* I feel certain that none of these genera is common to the two islands. The curious mammal, *Tupaia*, is common on Cuyo, but lacking on the southern island, and the large fruit bats of the two islands appear to be of distinct species. I collected a number of rats on Cagayancillo, but suspect they are only the common *Mus rattus.* One rat was seen on Cuyo.

From the above data I have concluded that Cagayancillo is an oceanic coral island of recent formation, whose bird population is composed of stragglers, the majority of which have probably come in from Negros or Mindanao. *Cinnyris* is evidently a wanderer from Cuyo or Paragua.

BENGUET PROVINCE, LUZON.

The birds of Benguet were made known to science through the collections of Mr. John Whitehead. During April, May, and June of the last year the Philippine Museum has had collectors working in the vicinity of Irisan, an elevation of about 4,000 feet on the trail between Naguilian, La Union, and Baguio, Benguet. This location proved to be a most fortunate one, as nearly all of the new species taken by Whitehead were collected together with several species previously known only from Lepanto.

UNDESCRIBED PLUMAGES AND NOTES ON THE RARER SPECIES.

LEUCOTRERON LECLANCHERI (Bp.).

A young male from Lubang has the pectoral band just indicated and the chin spot chestnut. No adults were seen.

CARPOPHAGA PICKERINGI Cass.

This fine pigeon has been recorded from Sulu, Sibutu, and Cagayan Sulu and we now have specimens from Cagayancillo, where it was abundant. Considering the size of the island and the almost total absence of trees, it was a great surprise to find a *Carpophaga.* All the birds killed were very fat. We found them feeding on blossoms and leaves as well as on fruit.

COLUMBA GRISEIGULARIS (Walden and Layard).

An immature male, the only example taken in Lubang, differs from the adult in having the feathers of upper parts bordered with metallic green instead of purple. The green on wing coverts is mostly lacking and many of the breast feathers are edged with brown. The beautiful purple of lower throat and breast is indicated only. These differences have been recorded by Grant. (Ibis, 1895, p. 469.)

GEOPELIA STRIATA (Linn.).

This dove has been recorded from Luzon and Samar. In Lubang it is rare, where a nest, containing two slightly incubated eggs, was found the latter part of October.

FREGATA ARIEL (Gould).

One male specimen from Cagayancillo.

FREGATA AQUILA (Linn.).

Of this frigate bird also we obtained a fully adult male.

LIMNOBÆNUS FUSCUS (Linn.).

This small rail has been recorded from Luzon, Leyte, and Mindanao. A single fine specimen was secured on Cagayancillo. We have several specimens taken near Manila.

GALLINAGO GALLINAGO (Linn.).

Although this species seems to be rare in the Philippines, I believe a specimen from Calapan, Mindoro, is correctly identified with *G. gallinago.* It agrees well with the description and is distinct from the common Luzon species.

BUTORIDES JAVANICA (Horsf.).

A partial albino female from Lubang has the wings with coverts and lining, tail and coverts, belly, flanks, thighs, and rump white; back and long secondaries seal brown; first two primaries and some of the coverts lightly washed with brown.

SPATULA CLYPEATA (Linn.).

Another spoonbill was found in the Manila market on November 18, 1902. A specimen was killed near Calapan, Mindoro, in December.

SULA PISCATRIX (Linn.)?.

On the day we left Cagayancillo there were dozens of gannets fishing a few miles offshore. They are doubtfully referred to this species.

BATRACHOSTOMUS MICRORHYNCHUS Grant.

An adult female of this rare and curious species was killed at Irisan, Benguet, May 16. The hunter reported that it was perched on a large horizontal limb in dense woods in company with another, which escaped. Grant records two specimens from Lepanto and one from Cabo Engaño. The measurements of our specimen are about the same as those of the type. Chord of culmen, 0.74; width of bill at gape, 1.22; wing, 5.04; tail, 4.04; tarsus, 0.65. Iris pale yellowish; edge of eyelids brown; bill light horn brown, cutting edge on basal half dull pea green; inside of mouth bright pea green; legs, feet, and nails dirty white.

SCOPS LONGICORNIS Grant.

The type of this owl is a male from Benguet. Of the only other specimen, collected by Whitehead in Lepanto, the sex is not given. A male was collected at Irisan on May 20. Bill dirty dull green, tip and cutting edge dark brown, cere dirty flesh color at base and dull yellowish over nostrils; iris bright yellow; legs and feet light flesh; nails gray, darker at tip. May 26, a female was shot as she left her nest in a small pine stub. Three young birds were found in the old woodpecker hole which served for the nest. The natal down is pure light gray. This is soon replaced by a soft gray plumage barred with brown, darker on the head and upper parts. The wings and tail develop feathers similar to those of the adult. The adult male and female are alike in plumage.

Measurements of Scops longicornis.

No.	Date.	Sex.	Wing.	Tail.	Culmen.	Tarsus.
2683	May 20	Male	5.67	2.57	0.68	1.22
2742	May 26	Female	5.96	2.84	0.70	1.18

PELARGOPSIS GOULDI Sharpe.

In Lubang a single specimen was killed in a mangrove. It is identical with Mindoro specimens.

CAPRIMULGUS MANILLENSIS Wald.

Fairly abundant near camp in Benguet, but by no means easily killed. The single male secured agrees perfectly with the night-jar of Ticao and Masbate. Hartert says: "A large white spot on the throat." (Cat. Bds. XVI, p. 544.) In each of our nine specimens there are two large white spots on the throat distinctly separated by brown and buff feathers. The white feathers forming these patches are tipped with deep blackish brown, and subterminally marked with buff. Hartert (l. c.) dismisses the subject of the young plumage with the remark: "The young bird is similar to the adult." A specimen apparently in first plumage differs so greatly from the adult that I venture to give the more important characters. *Male, juv., Phil. Mus. Coll. No. 1088; Ticao, May 21, 1902.*—Upper parts similar to adult but lacking the blackish brown on the head, except for a few small spots; top of head dark silvery gray; the not fully grown wings and tail similar to those of the adult; white throat patches wanting, being indicated by two small buff areas; feathers of the breast vermiculated with light brown and light buff with light buff tips; on the belly and sides the markings tend to bars. The under surface is more similar to the adult of *C. griseatus* than to the adult of *C. manillensis.*

COLLOCALIA WHITEHEADI Grant.

During the past year we have secured swifts at a number of localities, and in all cases the tarsi were carefully examined before skinning to determine the presence or absence of plumes. According to Grant (Ibis, 1895, pp. 459–461), *C. whiteheadi* has the tarsi bare and *C. fuciphaga* has the tarsi feathered. If this character is worth anything, and it probably is, we have specimens of *C. whiteheadi* from Cagayancillo, Verde, and Luzon. *C. francica* was abundant on Cagayancillo, but *whiteheadi* must have been very rare. Of seventeen specimens but one is referable to the latter, killed February 10. One specimen was shot from a flock on top of Verde December 18. At Irisan, Benguet, *C. fuciphaga* was found associated with *whiteheadi*, both being shot from the same flock. December 31, 1901, three swifts were killed at Santa Mesa near Manila. Although no examination was made at the time, I fail to find a single tarsal plume now and believe these birds must also be referred to *C. whiteheadi*. The upper parts of all these specimens (*fuciphaga* and *whiteheadi*) are dark sooty brown faintly glossed with dark green. The fork of tail measures from 0.22 inch to 0.34 inch.

Nestling, Irisan, Benguet, May 19, 1903.—Almost ready to leave the nest. Plumage like the adult, but above more sooty and lacking the green gloss; lower parts grayer. Iris darker brown than in adult; bill and nails black; legs pale flesh; in a much younger nestling the coloration is the same. In the adult the legs are dark reddish brown.

CALLOCALIA LINCHI Horsf. and Moore.

This little swift is common about Irisan. Scarcely a day passed without its being seen. It has a provoking habit of dodging among the tree branches which makes it an uncertain mark. We collected about a dozen examples, including nestlings. The young are very much like the adults, but the upper parts are strongly glossed with green, while in the adult the wings and tail have a dark steel-blue gloss. The difference is slight, but easily seen. In the nestling bill and nails are black; legs light flesh.

Although I have not yet killed one of the giant *Chæturæ*, the genus most certainly inhabits Luzon. I repeatedly saw large swifts in Benguet and I fired at them near Mariveles, Bataan. It is only by good fortune that they are found low enough to kill. *Collocalia troglodytes* probably occurs in Benguet, for I saw a small white-rumped swift there several times.

COLLOCALIA MARGINATA Salvad.

In Mindoro numbers of these birds were seen feeding over a mangrove swamp near the beach. One was killed at Puerto Galera on December 20, 1902.

CACOMANTIS MERULINUS (Scop.).

Juv., No. 2333, April 26, 1903, Irisan, Benguet.—Upper parts blackish brown, the feathers edged with clear pale cinnamon; lower parts very pale yellowish, broadly barred with blackish brown; posteriorly the bars become much narrower; wings and tail blackish brown, broadly notched and barred with clear pale cinnamon like the head and back; rectices tipped with white. Celestino, my native assistant, tells me that this bird was on the ground and being fed by one of the small flycatchers, *Abrornis nigrorum* (Moseley).

IYNGIPICUS VALIDIROSTRIS Blythe.

Five specimens of this small woodpecker from Lubang agree perfectly with Luzon and Mindoro examples.

PRIONITURUS MONTANUS Grant.

This beautiful parrot has been known only from Lepanto. We were so fortunate as to secure several specimens near Irisan, Benguet, including two fine adult males.

CHIBIA CUYENSIS McGregor.

On our recent visit to the Island of Cuyo this species was found to be abundant and a small series collected enables me to give additional data concerning its measurements.

Ten males measure: Wing, 5.56–5.98 (average, 5.81); tail, 4.92–5.43 (average, 5.19); culmen, 1.22–1.28 (average, 1.24); bill from nostril, 0.89–0.95 (average, 0.92).

Ten females measure: Wing, 5.32–5.97 (average, 5.73); tail, 4.76–5.37 (average, 5.12); culmen, 1.14–1.28 (average, 1.21); bill from nostril, 0.84–0.96 (average, 0.90).

MOTACILLA OCULARIS Swinh.

A female, killed on Lubang November 3, has a black plastron on the chest and the feathers of the fore neck black at the tips.

AETHOPYGA FLAVIPECTUS Grant.

Abundant on the Island of Lubang. Two specimens from Mariveles, Bataan, Luzon, differ slightly from the Lubang birds. With more material, it may be necessary to give another name to the latter, but for the present it may stand as *flavipectus*.

CINNYRIS AURORA Tweed.

Very abundant on Cuyo and Cagayancillo. Specimens from these islands are identical in coloration with typical examples. It was also found on Agutaya, one of the Cuyos Group.

ANTHOTHREPTES CHLORIGASTER Sharpe.

In their distribution list of Philippine birds, Worcester and Bourns give this species as being found in Luzon. This is doubtless a misprint, *A. griseigularis* being the Luzon species. *Anthothreptes chlorigaster* was abundant on Lubang. A large number from there agree very well with a pair from Ticao, except in having slightly longer bills. Another comparison will be made when more material is at hand.

DICÆUM LUZONIENSE Grant.

Fairly abundant about Irisan. Three immature males have the red throat patch indicated by a few red feathers; otherwise the under parts resemble the coloration found in the adult female; upper parts dark gray; wings slightly glossed with dark green; secondaries and coverts edged and tipped with greenish yellow. The bill in the young bird is very dark brown, except basal two-thirds of lower mandible, which is yellow. These young males were taken April 20 and May 21. A much younger male, taken April 28, lacks all of the red throat patch and the bill is more extensively yellow. Legs of young, dark brown; but in the adult, black. The condition of the ovaries in specimens examined indicates that a second brood is raised early in May.

ZOSTEROPS sp. inc.

A brilliantly colored *Zosterops* is abundant on Cagayancillo and it probably represents an undescribed species.

CEPHALOPHONEUS VALIDIROSTRIS (Grant).

Nestling, No. 2399, Irisan, Benguet, May 1, 1903.—The nestling is very similar to the adult, but the upper parts are uniform dark gray, darker than in adult and lacking the light gray band on forehead; chin, throat, fore breast, and sides of neck white; remainder of lower parts strongly washed with rusty cinnamon; a narrow median line of white down breast and belly; the breast crossed with obsolete dusky bars; secondaries margined with buff; tail tipped with buff. Iris gray; bill clear yellow, slightly dusky along culmen; legs and feet white; nails light gray. A nest containing three young was found April 20. The plumage of a fully grown young bird of May 16, No. 2644, is in every way similar to the nestling, but the bill, legs, and nails are darker.

CEPHALOPHONEUS NASUTUS (Scop.).

Nestling, No. 2681, Irisan, Benguet, May 20, 1903.—Head and neck blackish brown, the feathers more or less tipped with buff; hind neck, back, and scapulars rufous chestnut, irregularly barred with dusky; lower back, rump, and upper tail coverts clearer chestnut and unbarred; lower parts as in adult, but sides and breast extensively cinnamon, crossed by faint dusky bars; lower belly and thighs white; wings blackish brown, secondaries and most of the coverts with margins of the same color as the back; rectrices just showing cinnamon tips. Iris gray; bill dark gray above, white below, in gape light yellow; legs and feet very light gray, almost white, nails a little darker. In one specimen, but a few days out of the nest, the faint bars are lacking both above and below. In the adult the mantle is clear ashy gray, sharply defined against the black of hind neck.

BRACHYPTERYX POLIOGYNA Grant.

This species was described from Lepanto. It is extremely rare in Benguet Province, our party killing but two specimens. Its rarity may be more apparent than real as it is found only in thick undergrowth and makes no noise so far as I could observe. Iris dark, bill black, legs and nails dark brown. Measurements of a female, collected May 22, are: Wing, 2.47; tail, 1.60; tarsus, 1.15; culmen, 0.53; bill from nostril, 0.32.

Hyloterpe albiventris Grant.

Juv., No. 2360, Irisan, Benguet, April 27, 1903.—Above dark reddish brown, lighter on rump; lower parts light reddish brown, brighter posteriorly; wings blackish brown, first four primaries edged with white, the inner primaries and bastard wing edged with olive; secondaries and coverts margined with olive brown and reddish brown; the very short tail light olive green. In fully grown young birds this nestling plumage is intermingled with that of the adult, producing very curious effects.

Chimarrhornis bicolor Grant.

Rare and difficult to obtain. A male and female were killed by us near Irisan. Bill and nails black; legs and feet very dark brown.

Measurements of Chimarrhornis bicolor.

No.	Date.	Sex.	Wing.	Tail.	Tarsus.	Culmen.
2684	May 20	Male	3.03	2.22	0.96	0.56
2475	May 5	Female	2.94	2.20	0.96	0.58

Megalurus ruficeps Tweed.

While this species is abundant about Irisan, *M. palustris* was not once seen, although it is common enough in the vicinity of Trinidad and Baguio.

Zosterornis whiteheadi Grant.

Our specimens have the crown duller than, and lack the yellow line over eye, shown in plate (Ibis, 1894, Pl. XV). Bill black, legs and feet dull greenish, nails light horn gray, iris brown.

Pseudotharrhaleus caudatus Grant.

This is another Lepanto species whose range we have extended to Benguet. Three males were obtained near Irisan.

Measurements of Pseudotharrhaleus caudatus.

No.	Date.	Sex.	Wing.	Tail.	Culmen.	Tarsus.
2316	Apr. 25	Male	2.40	3.38	0.58	1.05
2575	May 12	Male	2.42	3.38	0.61	1.02
2702	May 22	Male	2.46	3.27	0.62	1.04

The bill, legs, feet, and nails are dark brown; lower mandible lighter; iris tan brown.

Iole philippinensis (Gm.).

The fruit thrush of Lubang does not differ from the Luzon form. Several Verde specimens are of a curiously light plumage, but may be referred to the Luzon species; they are certainly not *Iole mindorensis*, which is a very distinct species.

PERICROCOTUS NOVUS Wardlaw Ramsey.

The Luzon *Pericrocotus* seems to be undescribed, and as we were so fortunate as to secure five specimens near Irisan, Benguet, I venture to give descriptions of the plumages at some length. Grant had specimens from Benguet and Albay and one male from Negros. He does not describe the plumage, and remarks: "I have now, however, ascertained beyond doubt that the specimen in question (from Benguet) is *Pericrocotus novus* of Maj. Wardlaw Ramsey" (Ibis, 1895, p. 110). As the Major's only specimen was lost in the mail and as he took no description of it, I fail to understand how we can know what it was like.

Adult male, No. 2500, Coll. Phil. Mus., Irisan, Benguet, May 7, 1903.—Throat, neck, sides of neck, head, and mantle black with a very faint dark steel-blue gloss; lower back, rump, and upper tail coverts rich Pompeian orange; lower parts, except throat, rich orange, becoming more intense on the under tail coverts; wings black crossed by two bars of orange formed by colored areas on primaries, secondaries, and greater coverts; on the quills these markings have corresponding spots on the inner webs which form a diagonal band of dark buff, seen when inside of wing is examined; lining of wing pale orange; tail viewed from above mostly black; from below mostly fiery Pompeian orange; this results from the fact that the short outer rectrices are black on about basal half only, while the long central feathers are black for their whole length, only the outer web being orange near the tip. Bill, legs, and nails black. Length, 7.25 inches.

Adult female, No. 2499, Coll. Phil. Mus., Irisan, Benguet, May 7, 1903.—Markings somewhat as in the adult male, but the orange replaced by rich lemon yellow, which extends over the throat, sides of neck, and chin and also forms a narrow frontal band which extends backward on each side to over center of eye; the head and mantle are black, but lack the gloss seen in the male.

Immature male, No. 2497, Irisan, Benguet, May 7, 1903.—Resembles the adult female in having the frontal band at base of bill, and in having the chin and throat yellow. The under parts are pale orange, largely mixed with pale lemon yellow, the under tail coverts being altogether of the latter color; the rectrices are pale orange tipped with lemon; the central pair totally black. On the head and mantle there are many blackish brown feathers tipped with pale buff, and other glossy black feathers of the new plumage. The lower back and rump are orange with a mixture of lemon. The wing markings are very light orange.

Immature female, No. 2801, Irisan, Benguet, June 1, 1903.—Nearly all of the tail molted out. Exactly like adult female, but many feathers of head, mantle, sides of neck, and wings are brown with buff margins.

STOPAROLA NIGRIMENTALIS Grant.

Nestling, No. 2740, Irisan, Benguet, May 25, 1903.—Above blackish, each feather broadly tipped with yellowish brown; below dark buff, the feathers edged with black; median area on abdomen white; the partly grown wing feathers show the blue outer web as in the adult. Some of the dark brownish down still adheres to feathers of head and back. Bill brown, pale yellow in corners of mouth; legs and feet pale flesh; nails light horn brown.

NEW LOCALITIES FOR KNOWN SPECIES.

The following species are now authentically recorded for the first time, it is believed, from the localities named:

LUBANG.

Gallus gallus (Linn.).
Excalfactoria lineata (Scop.).
Osmotreron axillaris (Bonap.).
Phabotreron leucotis (Temm.).
Leucotreron leclancheri (Bonap.).
Carpophaga aenea (Linn.).
Columba griseigularis (Wald. and Layard).
Streptopelia dussumieri (Temm.).
Onopopelia humilis (Temm.).
Geopelia striata (Linn.).
Chalcophaps indica (Linn.).
Arenaria interpres (Linn.).
Charadrius dominicus (P. L. S. Müll.).
Ochthodromus geoffroyi (Wagler).
Ochthodromus mongolus (Pall.).
Aegialitis dubia (Scop.).
Aegialitis peroni (Bonap.).
Numenius variegatus (Scop.).
Heteractitis brevipes (Vieill.).
Tringoides hypoleucus (Linn.).
Rhyacophalus glareola (Gmel.).
Gallinago megala Swinh.
Rostratula capensis (Linn.).
Garzetta garzetta (Linn.).
Demiegretta sacra (Gmel.).
Bubulcus coromandus (Bodd.)
Butorides javanica (Horsf.).
Anas luzonica Fraser.
Butastur indicus (Gmel.).
Haliastur intermedius Gurney.
Pelergopsis gouldi Sharpe.
Alcedo ispida Linn.
Halcyon gularis (Kuhl).
Halcyon chloris (Bodd.).
Merops bicolor Bodd.
Cacomantis merulinus (Scop.).
Centropus viridis (Scop.).
Cacatua haematuropygia (P. L. S. Müll.).
Iyngipicus validirostris Blyth.
Corone philippina Bonap.
Sarcops calvus (Linn.).
Dicrurus balicassius (Linn.).
Oriolus chinensis Linn.
Munia jagori Martens.
Motacilla ocularis Swinh.
Motacilla melanope Pall.
Motacilla flava Linn.
Anthus rufulus Vieill.
Anthus gustavi Swinh.
Aethopyga flavipectus Grant.
Cinnyris sperata (Linn.).
Cinnyris jugularis (Linn.).
Anthothreptes chlorigaster Sharpe.
Dicaeum rubriventer Less.
Dicaeum pygmaeum (Kittl.).
Piprisoma aeruginosum (Bourns and Worc.).
Zosterops meyeni (Bp.).
Otomela lucionensis (Linn.).
Artamus leucogaster (Wagler).
Acanthopneuste borealis (Blas.).
Pratincola caprata (Linn.).
Megalurus ruficeps Tweed.
Cisticola exilis (Vig. and Horsf.).
Petrophila manilla (Bodd.).
Copsychus mindanensis (Gmel.).
Iole philippinensis (Gmel.).
Artamides striatus (Bodd.).
Lalage terat (Bodd.).
Hemichelidon griseisticta (Swinh.).
Gerygone simplex Cabanis.
Hypothymis occipitalis Vig.
Rhipidura nigritorquis Vig.
Zeocephus rufus (G. R. Gray).
Hirundo javanica Sparrm.
Pitta erythrogastra Temm.

MINDORO.

Excalfactoria lineata (Scop.).
Turnix fasciata (Temm.).
Geopelia striata (Linn.).

Charadrius dominicus (P. L. S. Müll.).
Gallinago gallinago (Linn.).
Bubulcus coromandus (Bodd.).
Anas luzonica Fraser.
Spatula clypeata (Linn.).
Halcyon coromandus (Latham).
Merops philippinensis Linn.
Collocalia marginata Salvad.
Surniculus velutinus Sharpe.
Hierococcyx fugax (Horsf.).
Mirafra philippinensis Wardlaw Ramsey.
Anthus gustavi Swinh.
Gerygone simplex Cabanis.

VERDE.

Osmotreron axillaris (Bonap.).
Carpophaga aenea (Linn.).
Streptopelia dussumieri (Temm.).
Geopelia striata (Linn.).
Chalcophaps indica (Linn.).
Hypotaenidia torquata (Linn.).
Tringoides hypoleucus (Linn.).
Butastur indicus (Gmel.).
Haliaetus leucogaster (Gmel.).
Eurystomus orientalis (Linn.).
Alcedo ispida Linn.
Halcyon gularis (Kuhl).
Halcyon chloris (Bodd.).
Collocalia whiteheadi Grant.
Tanygnathus lucionensis (Linn.).
Corone philippina Bonap.
Sarcops calvus (Linn.).
Dicrurus balicassius (Linn.).
Oriolus chinensis Linn.
Motacilla melanope Pall.
Cinnyris jugularis (Linn.).
Dicaeum rubriventer Less.
Zosterops meyeni Bonap.
Otomela lucionensis (Linn.).
Artamus leucogaster (Wagler).
Acanthopneuste borealis (Blas.).
Cisticola exilis (Vig. and Horsf.).
Petrophila manilla Bodd.
Copsychus mindanensis (Gmel.).
Iole philippinensis (Gmel.).
Pycnonotus goiavier (Scop.).
Gerygone simplex Cabanis.
Hypothymis occipitalis Vig.
Rhipidura nigritorquis Vig.
Pitta erythrogastra Temm.

CUYO.

Streptopelia dussumieri (Temm.).
Chalcophaps indica (Linn.).
Ochthodromus mongolus (Pall.).
Aegialitis alexandrina (Linn.).
Limonites ruficollis (Pall.).
Fregata sp.
Scops sp.
Ninox japonica (Temm. and Sch.).
Collocalia francica (Gmel.).
Eudynamis mindanensis (Linn.).
Cinnyris aurora (Tweed.).
Acanthopneuste borealis (Blas.).
Lalage terat (Bodd.).
Rhipidura nigritorquis Vig.
Hirundo javanica Sparrm.

AGUTAYA.

Streptopelia dussumieri (Temm.).
Tringoides hypoleucus (Linn.).
Sterna bergii Lichtens.
Fregata sp.
Calornis panayensis (Scop.).
Cinnyris aurora (Tweed.).
Otomela lucionensis (Linn.).
Petrophila manilla Bodd.

CAGAYANCILLO.

Megapodius cumingi Dillwyn.
Leucotreron leclancheri (Bonap.).
Carpophaga pickeringi Cass.
Streptopelia dussumieri (Temm.).
Chalcophaps indica (Linn.).
Hypotaenidia torquata (Linn.).
Rallina euryzonoides (Lafresn.).
Limnobaenus fuscus (Linn.).
Arenaria interpres (Linn.).
Ochthodromus geoffroyi (Wagler).
Ochthodromus mongolus (Pall.).
Aegialitis dubia (Scop.).
Numenius variegatus (Scop.).
Heteractitis brevipes (Vieill.).
Tringoides hypoleucus (Linn.).
Garzetta garzetta (Linn.).
Demiegretta sacra (Gmel.).
Butorides javanica (Horsf.).
Sula piscatrix?
Fregata aquila (Linn.).
Fregata ariel (Gould).
Astur soloensis (Horsf.).
Astur cuculoides (Temm.).
Butastur indicus (Gmel.).
Eurystomus orientalis (Linn.).
Alcedo ispida Linn.
Halcyon chloris (Bodd.).
Merops bicolor Bodd.
Collocalia whiteheadi Grant.

Collocalia francica (Gmel.).
Hierococcyx fugax (Horsf.).
Cacomantis merulinus (Scop.).
Eudynamis mindanensis (Linn.).
Centropus viridis (Scop.).
Corone philippina Bonap.
Calornis panayensis (Scop.).
Oriolus chinensis Linn.
Anthus gustavi Swinh.
Cinnyris aurora (Tweed.).
Zosterops sp.
Otomela lucionensis (Linn.).
Acanthopneuste borealis (Blas.).
Petrophila manilla Bodd.
Lalage terat (Bodd.).
Hemichelidon griseisticta (Swinh.).

SPECIES FROM IRISAN, BENGUET PROVINCE, LUZON.

The birds of the Luzon highlands are so little known that it seems worth while to give a complete list of what we found, more especially as the exact locality is known.

Gallus gallus (Linn.).
Phabotreron leucotis (Temm.).
Ptilocolpa carola Bp.
Macropygia tenuirostris Bp.
Butorides javanica (Horsf.).
Accipiter manillensis (Meyen).
Butastur indicus (Gm.).
Pseudoptynx philippensis (Kaup).
Scops longicornis Grant.
Batrachostomus microrhynchus Grant.
Eurystomus orientalis (Linn.).
Alcedo ispida Linn.
Halcyon gularis (Kuhl.).
Hydrocorax hydrocorax (Linn.).
Caprimulgus manillensis Wald.
Collocalia fuciphaga (Thunb.).
Collocalia linchi Horsf. and Moore.
Collocalia whiteheadi Grant.
Macropteryx comata (Temm.).
Hierococcyx spaverioides (Vig.).
Cacomantis merulinus (Scop.).
Lepidogrammus cumingi (Fraser).
Prioniturus montanus Grant.
Loriculus philippensis (P. L. S. Müll.).
Iyngipicus validirostris Blyth.
Chrysocolaptes haematribon (Wagler).
Thriponax javensis (Horsf.).
Corone philippina Bp.
Sarcops calvus (Linn.).
Munia jagori Martens.
Munia cabanisi Sharpe.
Uroloncha everetti (Tweed.).
Loxia luzoniensis Grant.
Motacilla melanope Pall.
Motacilla flava Linn.
Anthus rufulus Vieil.
Anthus gustavi Swinh.
Anthus maculatus Hodgs.
Dendrophila mesoleuca Grant.
Eudrepanis jefferyi Grant.
Dicaeum pygmaeum (Kittl.).
Dicaeum luzoniense Grant.
Dicaeum obscurum Grant.
Zosterops meyeni Bp.
Pardaliparus elegans Less.
Hyloterpe albiventris Grant.
Cephalophoneus nasutus (Scop.).
Cephalophoneus validirostris (Grant).
Artamus leucogaster (Wagler).
Acanthopneuste borealis (Blas.).
Horornis seebohmi (Grant).
Pratincola caprata (Linn.).
Brachypteryx poliogyna Grant.
Chimarrhornis bicolor Grant.
Megalurus ruficeps Tweed.
Megalurus palustris Horsf.
Phyllergates philippinus Hartert.
Cisticola exilis (Vig. and Horsf.).
Merula thomassoni Seebohm.
Petrophila manilla Bodd.
Zosterornis whiteheadi Grant.
Pseudotharrhaleus caudatus Grant.
Iole philippinensis (Gm.).
Artamides striatus (Bodd.).
Pericrocotus novus Wardlaw Ramsey.
Hemichelidon griseisticta (Swinh.).
Muscicapula luzoniensis Grant.
Muscicapula westermanni Sharpe.
Rhipidura cyaniceps (Cass.).
Culicicapa heliathea (Wall.).
Abrornis nigrorum (Moseley).
Stoparola nigrimentalis Grant.

UNIV.
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BULLETIN

OF THE

PHILIPPINE MUSEUM

No. 4

Issued May 15, 1904

THE BIRDS OF CALAYAN AND FUGA, BABUYAN GROUP

in Bird Lit

BY RICHARD C. MCGREGOR

MANILA
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THE BIRDS OF CALAYAN AND FUGA, BABUYAN GROUP.

By Richard C. McGregor.

INTRODUCTORY NOTE.

Due north of Luzon are a number of small islands known as the Babuyanes, and north of this group are the Batanes. The small lot of birds secured on Fuga Island by Mr. John Whitehead has been the only collection known from any of these islands. In August, 1903, we took a steamer to Aparri, in north Luzon, where after much delay we secured a native boat to take us to the Islands of Fuga and Calayan in the Babuyanes. I intended to visit Camiguin as well, but owing to the light and variable breezes it was found to be impracticable.

The present paper deals with the collection of over 1,000 skins which was made on Calayan and Fuga. A few species from Luzon and other islands are also discussed in their proper order. Three species from Ticao and one from Lubang, overlooked or not identified before, are now recorded for the first time and may be added to my lists from those islands in former bulletins. The nomenclature of this paper follows closely that of Sharpe's Hand List and the Catalogue of Birds. *Salangana* has been substituted for *Collocalia,* and *Otus* for *Scops.* My thanks are due to Secretary Worcester, who has continued to direct our collecting operations, and to Dr. Charles W. Richmond, of the United States National Museum, who has kindly identified a number of doubtful species.

The following species are described as new:

Turnix worcesteri.
Macropygia phæa.
Otus cuyensis.
Otus calayensis.
Eudynamis frater.
Zosterops flavissima.
Hyloterpe fallax.

The following forms are new to the Philippines:

Sphenocercus formosæ.
Oceanodroma, species.
Sterna fluviatilis.
Polionetta zonorhyncha.
Mareca penelope.
Spodiopsar sericeus.
Chrysomitris spinus.
Saxicola œnanthe.
Acrocephalus sorgophilus.
Chelidon dasypus.
Clivicola riparia.
Astur cuculoides.
Turdus pallidus.
Antigone sharpei.
Fringilla montifringilla.

The following appear to be new to Luzon:

Pandion haliaëtus.
Tachornis infumata.
Locustella ochotensis.

Added to list of Ticao birds:

Charadrius dominicus.
Anthus gustavi.
Heteractites brevipes.
Circus melanoleucus.

Added to list of Lubang birds:

Spizaëtus limnaëtus.

LIST OF PLATES.

I. Fig. 1, *Turnix worcesteri*, new species, type ♀; fig. 2, *T. whiteheadi* Grant, ♀.
II. *Antigone sharpei* Blanf.
III and IV. *Pelecanus philippensis* Gm.
V. Fig. 1, *Hyloterpe albiventris* Grant ♀; fig. 2, *H. fallax*, new species, type ♀; fig. 3, *H. philippinensis* Walden ♀.

ZOÖGEOGRAPHICAL NOTES.

FUGA.

The name Fuga is scarcely known among the natives at Aparri, and on the island itself, as well as on Calayan, Fuga is known as "Babuyan." The round island marked "Babuyan" on the maps and situated about 30 miles to the northeast of Calayan is called "Babuyan Claro" by the natives. Off Musa, marked on the map as the only town on Fuga, the anchorage is poor, the ground being very foul. A sandy beach, sheltered by the two small islands Bari and Rigatin (the latter marked "Mabac" on my map), exists at the western end of the island, though there are plenty of hidden rocks here as elsewhere about the island.

Fuga is a low, scantily wooded island 12 miles long by 4 miles wide, distant about 18 miles from the nearest point of the Luzon coast. Along the shore is a fringe of small trees and brush, while the low, rolling ground of the interior is covered only with grass and a few stunted guava bushes. The island is of coral formation, and along the northern shore there are evidences of several elevations in steep coral cliffs, the summits of which are 100 feet or more above the present beach. There are no streams on the island. The seven days devoted to Fuga were quite enough to determine the general character of its bird fauna and to secure typical specimens of *Hypsipetes fugensis*, which were the main objects of our visit.

The island is scarcely worth a visit, as there is no forest and few birds. Besides the fruit thrush, *Cinnyris* and *Eudynamis* are the only birds of interest. Grant records seven species from Fuga. These were collected by Whitehead and are:

Megapodius cumingi.
Carpophaga nuchalis.
Accipiter gularis.
Ninox japonica.
Endynamis sp. inc.
Hypsipetes fugensis.
Oriolus chinensis.

To these must be added *Butastur indicus, Haliaëtus leucogaster,* and *Falco peregrinus,* recorded by Whitehead in his Field Notes[1] on Philippine Birds. During our stay we observed 22 additional species, bringing the number of Fuga birds up to 32.

UNRECORDED BIRDS OBSERVED ON FUGA.

Gallus gallus.
Streptopelia dussumieri.
Chalcophaps indica.
Charadrius dominicus.
Ægialitis peroni.
Orthoramphus magnirostris.
Demiegretta sacra.
Ninox japonica.
Eurystomus orientalis.
Halcyon chloris.
Merops bicolor.
Eudynamis frater.
Centropus viridis.
Corone philippina.
Calornis panayensis.
Munia jagori.
Anthus rufulus.
Cinnyris whiteheadi.
Dicæum pygmæum.
Otomela lucionensis.
Acanthopneuste borealis.
Cisticola exilis.
Hirundo gutturalis.

All of these are Philippine birds or common migrants, except *Eudynamis frater,* which is here described from Calayan, and *Hypsipetes fugensis,* which is of an Asiatic genus with representative species in Japan, Loo Choo, and Formosa. The Fuga species is abundant on Calayan. The only other species of interest is *Cinnyris whiteheadi,* now recorded for the first time outside of Luzon. Zoölogically Fuga must be classed with Calayan because of the occurrence of the three species mentioned and the absence of all the peculiar Luzon genera.

CALAYAN.

Calayan lies about 25 miles north of Fuga and is a little larger than that island. It has a moderately high central ridge of hills. The whole island is covered with heavy forest interspersed with occasional patches of tall "cogon" grass. The natives told me that numerous species of valuable timber trees abound. I know only that the woods are well suited for woodpeckers, hornbills, etc. The absence of such birds was a continual wonder to me. Along the beach just above high water is a belt of large-flowered trees known locally as "butun"—Tagalo name, "by-ac-to-ro." Nothing of value in the way of birds was ever taken in these butun trees except a small hawk, several specimens of which were killed here and nowhere else. Wild guavas are abundant. An inferior variety of banana is planted to a considerable extent, though it can not be said that it is cultivated. Cocoanut trees exist in small patches. Tobacco, corn, rice, and camotes are cultivated in quantities sufficient for local use. I understand that some rice is exported in case of a large crop. I was told that a good quality of cotton is grown, but I did not see any of it. Carabaos and pigs, both of which may have escaped from domestication, appear to be the only wild mammals.

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[1] Field Notes on Birds Collected in the Philippine Islands in 1893–1896 [part 1], Ibis, 1899, pp. 81–111.

There are numerous small rivers on Calayan, four of them being within a mile of the town. The island seems to have been pretty much all under the sea, for I found coral limestone extensively over the lower parts and at the highest points visited. Near the eastern point of the island, however, there are fairly well-preserved basaltic columns.

The climate is excessively wet. During the time we were there scarcely thirty-six consecutive hours passed without at least a shower. In November and December there were continuous heavy rains, which interfered seriously with our work. The strong northerly and northeasterly winds reduced the temperature below the point of comfort. On October 20 a typhoon, which destroyed the church and many houses, cut down all of the bananas and ruined much of the rice, which was nearly ripe. The natives told me that this was the strongest wind they had ever seen.

Some 95 species of birds were noted on Calayan, of which the following are Philippine:

Leucotreron leclancheri.
Amaurornis olivacea.
Podicipes philippinensis.
Salangana marginata.
Eudynamis mindanensis.
Corone philippina.
Oriolus chinensis.
Uroloncha everetti.
Cinnyris whiteheadi.
Dicæum pygmæum.
Zosterops meyeni.
Pardaliparus elegans.
Muscicapula luzonensis.

The above species are enough to outweigh the presence of two Asiatic genera (*Hypsipetes* and *Sphenocercus*).

Calayan, Fuga, and probably the other Babuyanes (Camiguin, Dalupiri, and Babuyan) belong zoölogically with the Philippines, but by no means can they be joined with the Luzon group. The genera *Hypsipetes* and *Sphenocercus*, with representative species of *Macropygia, Otus, Eudynamis,* and *Hyloterpe,* give Calayan a very distinct fauna. The negative evidence is even stronger, for of the forty or fifty species peculiar to the Luzon group only *Cinnyris whiteheadi* and *Zosterops meyeni* occur on Calayan. The following genera are altogether wanting: *Penelopides, Dicrurus, Dendrophila, Megalurus, Orthotomus, Cittocincla, Pycnonotus, Artamides, Hypothymis, Rhipidura, Pitta;* also all the woodpeckers, parrots, sunbirds (but one), and flower-peckers (but one). As we spent four months on the island there is little probability that any of these forms occur and were overlooked.

A number of species added to the Philippine list from Calayan are of interest, but as they are probably migrants they afford no evidence as to the faunal relationship of the Babuyanes. It is probable that most of them will be taken in Luzon.

NOTES ON THE SPECIES OBSERVED.

MEGAPODIUS CUMINGI Dillwyn.

Abundant on Fuga, where several specimens were killed and many more were seen. Few seen on Calayan, but many of the pinkish eggs brought in by the natives during September and October. Small young "tabon" were killed early in October. The Calayan name is "ou-cong."

GALLUS GALLUS (Linn.).

Abundant on Fuga; rare on Calayan.

TURNIX WHITEHEADI Grant; Handbook Game Birds, II, 1897, p. 276.

Known only from three birds purchased in Manila by Mr. John Whitehead. In August, 1902, we rediscovered this species in the Quinta Market, Manila. The natives said the birds were caught at Parañaque, which is a town on Manila Bay. In our series of twenty skins the sexes constantly differ, and I add a description of the adult female, together with a series of measurements:

Adult female.—No. 1322, Philippine Museum Collection. Purchased in Quinta Market, Manila, August 26, 1902. Probably from Parañaque.

Description.—Similar to adult male, but distinguished by a dark chestnut collar, narrow on hind neck, wide on sides of neck. General color of upper parts black; feathers of head broadly tipped with dull chestnut; down middle of head from bill to hind neck a distinct line of pale straw yellow, terminated by the cervical collar; remainder of feathers on upper parts barred with dull chestnut; some of the interscapulars edged with whitish; lateral feathers of lower back, rump, and upper tail coverts broadly edged and tipped with dark buff. Primaries light brown edged with paler; primary coverts rather blackish brown; bastard wing blackish brown, the largest plume broadly edged with white externally; secondaries light brown with a mottled edging of darker brown and whitish; tertiaries and scapulars much like the back, the latter broadly edged with buffy yellow; secondary coverts mostly dull chestnut, each feather with a large black spot and light buff edges. Whole sides of face pale buff, most of the feathers black tipped, forehead similar. Chin, upper throat, lower breast, and abdomen white; lower throat and upper breast covered by a patch of dark buff, which also extends over sides of these areas; some feathers on sides of these areas each with a large black spot; a few feathers under wings largely dull chestnut. Total length, 5.25 inches; wing, 2.26; tail, 1.02; culmen, 0.43; depth of bill at angle of gonys, 0.14; tarsus, 0.73; middle toe with claw, 0.60.

Measurements of Turnix whiteheadi.

Sex.	Wing.	Tail.	Culmen.	Tarsus.
Male	2.32	0.90	0.40	0.72
Do	2.40	1.10	.36	.68
Do	2.30	.87	.40	.65
Do	2.32	.66	.40	.70
Do	2.23	.80	.38	.65
Female	2.38	.88	.41	.72
Do	2.53	.85	.39	.66
Do	2.36	.80	.42	.68
Do	2.42	.72	.38	.68

Turnix whiteheadi evidently begins nesting in August, for several live birds from the market during that month contained eggs. Two of these eggs we were able to preserve entire. As may be seen by the measurements, they are rather short. The short diameter crosses the long diameter near its middle, and the outline slopes gently to the smaller end, producing a shape less pyriform than in the eggs of our American partridges.

DESCRIPTIONS.

No. 1. August 26, 1902.—White with numerous obscure lilac-shell markings; around the larger end a band of dark sienna 0.20 inch wide, whose edges are ragged and near which are a very few brown spots. The dark zone incloses a white and unspotted area 0.35 inch in diameter. This egg measures 0.78 by 0.63.

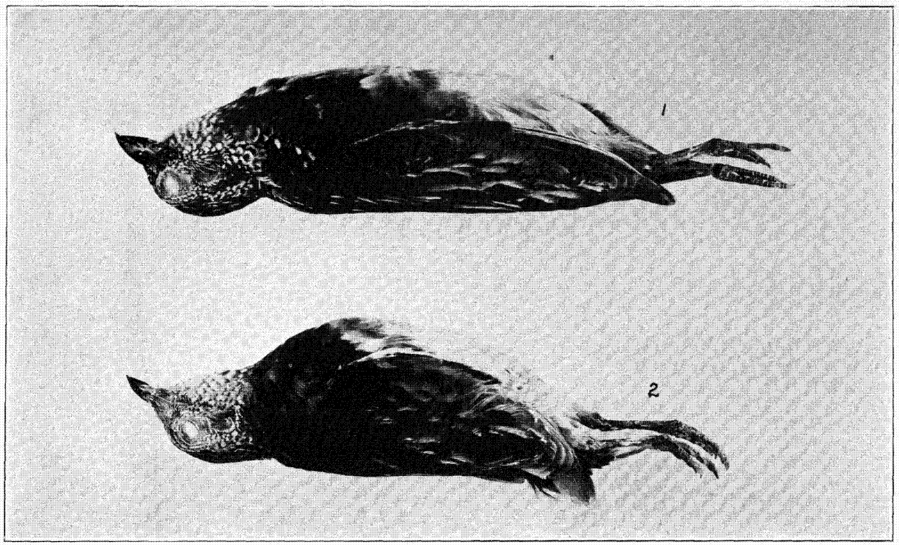
No. 2. August 16, 1902.—Very similar to the other egg, but the dark band more broken on margins and entire larger end to middle covered with a dark-brown wash. The edge of this color area is well defined and slightly irregular, a few fine specks along its edge; smaller end of egg with a faint brown wash. This egg measures 0.79 by 0.65.

If egg No. 1 were half immersed in strong coffee it would be colored nearly like egg No. 2. As these eggs were taken from the oviduct—that is, before they were deposited normally—I am inclined to think that they may be somewhat abnormal, or not fully colored, and No. 1 especially tends to confirm this idea.

TURNIX WORCESTERI, new species.

Type.—No. 1350, adult female, Philippine Museum Collection. Purchased in Quinta Market, Manila, August 30, 1902. Probably from Parañaque, Luzon.

Description.—General color above, black; on the forehead, spotted with white; on crown and nape, feathers tipped with pale buff and some edged with white, producing an incomplete white line on middle of head (this line may be perfect in a well-made skin); feathers on back and rump barred and tipped with pale buff, on the interscapular area edged also with white; feathers on sides of face mostly white with black tips; lores white; feathers on sides of neck black, each with a wide subterminal bar of white; a small black spot behind ear; breast and throat rusty buff, extending up each side of the white chin area as rusty buff tips to the feathers and bounded above by the black-tipped white feathers of malar region; flanks, under tail coverts, and sides of abdomen and breast are also rusty buff, but paler; center of abdomen white; a few feathers on sides of abdomen are barred with blackish brown. Primaries, their coverts, and secondaries blackish gray; four outer primaries narrowly edged with whitish; secondaries barred with whitish on outer web. Scapulars like the back but with wide edges of whitish buff.



1, TURNIX WORCESTERI ♀; 2, T. WHITEHEADI ♀. (SLIGHTLY REDUCED.)

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Secondary coverts blackish mottled and edged with pale buff. Tail blackish, edged with pale buff. Bill pale bluish; legs flesh pink, nails slightly darker; irides very pale yellow. Length, 5 inches; wing, 2.80; tail, 0.93; culmen, 0.41; depth of bill at angle of gonys, 0.23; tarsus, 0.66; middle toe with claw, 0.71.

This bird is known to us from the type specimen purchased in the market where it was found with others of the same genus. It is readily distinguishable from any other Luzon *Turnix* by its very deep, short bill.

SPHENOCERCUS FORMOSÆ Swinh.; Salvadori, Cat. Bds., XXI, p. 13, Pl. I.

Fairly abundant on Calayan, where it is called "pu-nai," a name used for *Osmotreron* in many of the Philippine Islands. This bird may be distinct from the Formosa species, which is said to occur in the mountains of that country, but I can find nothing in our series of a dozen skins to justify a separation, and a comparison will be necessary for final identification. The genus is new to the Philippines.

LEUCOTRERON LECLANCHERI (Bp.).

Three specimens from Calayan agree with some from Luzon and Mindoro. Shy and difficult to obtain.

CARPOPHAGA NUCHALIS Cab.; Grant, Ibis, 1896, p. 487 (Fuga); Whitehead, Ibis, 1899, p. 487.

Both Grant and Whitehead were very sure that the single specimen which they had from Fuga was distinct from *C. nuchalis* of Luzon. Our four skins from Fuga and Calayan are alike and have a dark-purplish nuchal band. With no Luzon material at hand for comparison it is necessary to let these stand as *nuchalis*. Fairly common on Fuga and abundant on Calayan.

About the middle of November these birds collect in large flocks, sometimes numbering 100 or more. They are easily killed if they happen to pass near one, but when feeding or resting in trees they take fright at the first sign of danger. All specimens killed were extremely fat, so that good skins were out of the question. Name on Calayan, "balug."

COLUMBA GRISEIGULARIS (Wald. and Layard).

A few were seen in the tops of the heaviest timber. One killed was so fat that I made no attempt to get more.

MACROPYGIA PHÆA, new species.

Specific characters.—Somewhat similar to *M. tenuirostris* Bp., but larger and much darker; the inner webs of first three primaries uniform, the others but narrowly, if at all, edged with rufous.

Type.—No. 3933, adult male, Philippine Museum Collection, Calayan Island, Babuyanes, P. I. Collected November 18, 1903, by R. C. McGregor and A. Celestino.

Description.—Upper parts, including wings and tail, blackish brown; back and rump feathers with wide edges of very dark-bluish slate (these edges are very obscure); entire head dark chestnut brown, a little lighter on forehead, the occiput and nape dark; entire side of head below and behind eye of same shade as forehead; the chin and upper throat light chestnut, restricted laterally by dark sides of face; rest of lower parts dark chestnut brown, minutely vermiculated with black, which is heaviest on breast, where the black tends to form crescent marks; sides of neck and top of head also finely vermiculated. Abdomen, under tail coverts, and axillaries uniform dark chestnut (in one specimen the black specks and vermiculations extend onto abdomen and under tail coverts); breast and abdomen with a vinous wash; lining of wing dark chestnut mixed with blackish brown. Upper breast, sides of neck, and hind neck metallic green when held toward the light, metallic purple when held away from the light. Wings uniform blackish brown above; below the first three primaries are without chestnut margins; the innermost primaries are narrowly margined with chestnut on basal half. From above the short outer pair of tail feathers chestnut, with a wide blackish bar near tip; second pair mostly blackish with a wide diagonal chestnut bar about 2 inches from tip; remaining feathers blackish brown. Bill brown with reddish base; legs dark reddish brown, nails brown; irides of three rings, outer crimson, middle black, inner straw. Total length, 16.25 inches; wing, 7.78; tail, 7.80; culmen, 0.70; tarsus, 0.94.

Type of female.—No. 3714, Philippine Museum Collection. Calayan Island, October 23, 1903. Collected by R. C. McGregor and A. Celestino.

Description.—Resembles the male, but feathers of lower throat extensively black with chestnut tips; just posterior of the light chin spot the feathers are almost solid black, some having chestnut bases and others chestnut tips; the sides of neck are blackish with small chestnut specks on feathers, behind ear coverts forming irregular bars. No metallic gloss below and much restricted above where it is mostly green, only a faint trace of purple being detected. Colors of bill, legs, and eyes as in male. Total length, 16 inches; wing, 7.70; tail, 7.68; culmen, 0.70; tarsus, 0.85.

The present species seems to be one of the darkest forms yet described. It is larger and darker than *tenuirostris* of the Philippines, which is said to have the tail much darker chestnut brown than the allied *phaseanella* (Australia) and *emiliana* (Java, North Borneo, Lombok). It certainly does not approach the wide ranging *ruficeps* (Java, Sumatra, Borneo, and Malay Peninsula), which has the wing only 5.5–5.8 inches. (Cat. Bds., Vol. XXI, p. 347.)

The species is rather abundant on Calayan, and its habits do not differ from those of *M. tenuirostris*. Like *Sphenocercus*, it was feeding on tree fruits when we reached the island in September, but a typhoon during the latter part of October cut down most of the higher fruiting branches with their protecting foliage and both these species of doves were then found in small trees and bushes. Known to the natives as "a-la-ga′-dang."

With regard to the female plumage of *M. tenuirostris*, our specimens tend to confirm the statements of Salvadori (Cat. Bds.) and Grant (Ibis, 1895, p. 470) that the adult female differs in plumage from the male. One of our specimens from Benguet taken May 1, 1903, showed unmistakable signs of being a breeding female and resembles the plumage described for young birds, including the "broad rufous-cinnamon edges on the upper wing coverts." A breeding male taken at the same time and place has rufous-cinnamon edges to the wing coverts. It seems probable that two or perhaps three seasons are required for either sex of this species to attain the *fully* adult plumage.

STREPTOPELIA DUSSUMIERI (Temm.).

Rare on Calayan, where it is called "pagau."

ŎNOPOPELIA HUMILIS (Temm.).

One of a pair killed in a Calayan rice field November 13; no others seen.

CHALCOPHAPS INDICA (Linn.).

This green ground dove occurs in its usual numbers on both islands visited. One specimen from Fuga, where the species is rather more common than on Calayan, is albinistic. A few feathers on the breast, abdomen, shoulders, back, and rump and one tail feather are pure white. (No. 2995, Coll. Phil. Mus.) On Calayan it is called "li-mu′-kin."

SULA SULA (Linn.)?

September 7 as we were nearing the Island of Calayan a pair of gannets circled about our boat. They were probably of this species, but I never saw them again and in fact have never seen gannets near a beach in the Philippines.

ANTIGONE SHARPEI Blanf.; Sharpe, Hand List Birds, p. 178 (Malay Peninsula, etc.).

Antigone antigone SHARPE, Cat. Bds., XXIII, p. 264.

This bird is well known to the Tagalos as "tipol," but seems to be unrecorded from these Islands. A mounted specimen said to have been taken at Aparri has been received in exchange from Father Sanchez, of the Jesuit Museum, Manila. Secretary Worcester had a live bird of this species for some time, said to have been taken in Candaba swamp. The bird is now in the Botanical Gardens, Manila.

DISSÖURA EPISCOPUS (Bodd.)?

A large bird believed to have been of this species was occasionally seen on Calayan.

POLIOLIMNAS (?) species.

Once or twice I flushed a small rail from a rice field on Calayan, but could not be sure as to the genus. A liberal reward offered for a "tookling" resulted in the production of two black downy young on October 8, but no adults.

AMAURORNIS OLIVACEA (Meyen).

One specimen from Calayan; several others seen. The local name is "ba-na-tí-ran."

GALLINULA CHLOROPUS (Linn.).

One immature specimen from Calayan.

PODICIPES PHILIPPENSIS (Bonn.).

There is no place on Calayan where one would expect to find grebes, and I was surprised to get a specimen on the small river near town. The specimen was taken November 15 and is in fall plumage, lacking any trace of rufous. Skins taken by us at Jalajala, Laguna de Bay, on January 5, 1902, have attained nearly the complete plumage of the breeding bird.

OCEANODROMA, species.

On July 28 while our steamer was weathering a typhoon at Mariveles near the mouth of Manila Bay I secured a single mangled petrel still alive. The native boy from whom I bought it said that two or three had come aboard two nights before. The bird is an *Oceanodroma* of the *melania* style of coloration, but the skin is in such bad condition, lacking the tail altogether, that I can not make out the species. The family appears to be unrecorded from the Philippines.

I believe *Puffinus leucomelas* is the only species of Tubinares so far recorded from these Islands. I have not yet taken a shearwater here, but more than once have seen them off the west coast of Luzon, and when going from Aparri to Calayan in a native boat large Tubinares, certainly of two species, were seen. One may have been an albatross.

STERNA FLUVIATILIS Naum.

October 21, after a strong typhoon, two terns appeared off the beach at Calayan. One killed appears to be an immature male of the above species.

ORTHORAMPHUS MAGNIROSTRIS (Vieill.).

Three specimens from Calayan and Fuga. Occurs sparingly along the beaches of both islands. In Calayan known as "ta-ba-lá-lan."

GLARIOLA ORIENTALIS Leach.

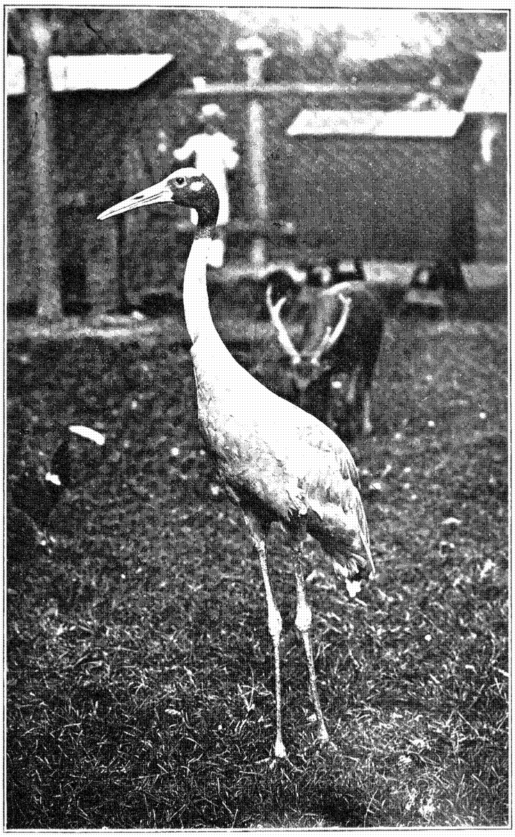
A few specimens taken on Calayan.

HYDROPHASIS CHIRURGUS (Scop.).

One killed December 5 on Calayan.

CHARADRIUS DOMINICUS (P. L. S. Müll.).

Abundant in flocks on both Calayan and Fuga. On Calayan it is called "ca-sa-huit'." We have a specimen in mottled plumage, a male,



ANTIGONE SHARPEI.

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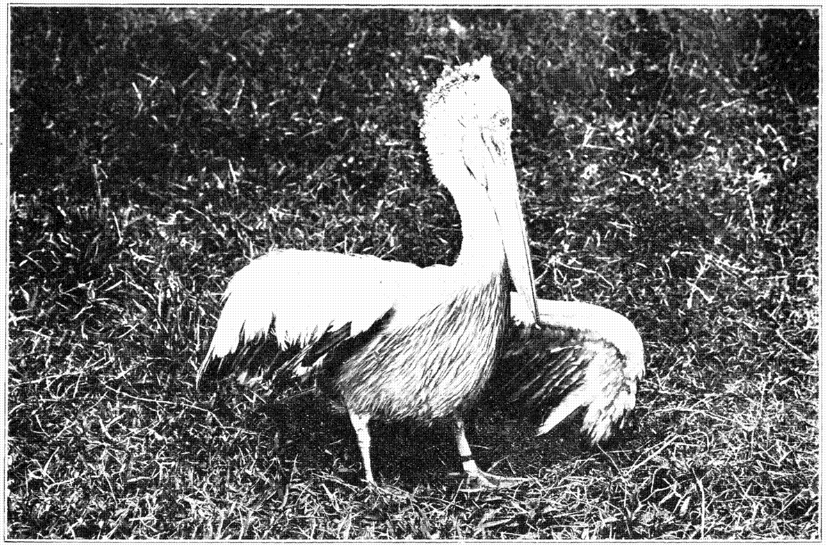

PELECANUS PHILIPPINENSIS.

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which was taken on Ticao April 17, 1902. The species should be added to the list of birds from that island.

ÆGIALITIS DUBIA (Scop.).

Fairly abundant on Calayan.

ÆGIALITIS ALEXANDRINA (Linn.).

Fairly abundant on Calayan.

ÆGIALITIS PERONI (Bp.).

Fairly abundant along beaches on both Fuga and Calayan.

OCHTHODROMUS MONGOLUS (Pall.).

Two specimens from Calayan.

HETERACTITIS BREVIPES (Vieill.).

One killed on Calayan October 21 was the only specimen seen. A female was collected on Ticao May 27, 1902, and is to be added to the Ticao list.

TRINGOIDES HYPOLEUCUS (Linn.).

Abundant on Calayan.

RHYACOPHILUS GLARIOLA (Gm.).

One specimen from Calayan.

LIMONITES RUFICOLLIS (Pall.).

Very rare; one killed October 23 on Calayan.

GALLINAGO STENURA (Kuhl).

Snipe were abundant on Calayan, and the only one preserved is of this species, of which the only previous Philippine record is Mindanao. About Manila *Gallinago megala* Swinh. is the common species. Two specimens of *G. gallinago* (Linn.) were taken by us at Pandacan, a suburb of Manila, but *stenura* appears to be rare.

Key to the Philippine species of Gallinago.

A. Tail feathers, 20 or more, the outer ones stiffened and very narrow; dark bars on axillaries wider than the white bars.
  a. Tail shorter, about 1.90 inches; outer feathers narrower-- *G. stenura.*
  b. Tail longer, about 2.10 inches; outer feathers wider------ *G. megala.*
B. Tail feathers, usually 14, normal; dark bars of axillaries narrow or obsolete-- *G. gallinago.*

NYCTICORAX NYCTICORAX (Linn.).

A dozen or more roosted during the day in a thicket of trees near the beach. A young bird was preserved. Another was killed as it sat alone in some brush near a small stream. Calayan only.

MESOPHOYX INTERMEDIA Wagl.

One or two pairs on Calayan feeding in same fields as *Bubulcus.* One female collected.

Demiegretta sacra (Gm.).

Observed about the beaches of Fuga and Calayan.

Bubulcus coromandus (Bodd.).

A small band always to be seen in company with the cattle on Calayan. Local name, "la-guác." The species was not noted on Fuga.

Butorides javanica (Horsf.).

Rare; one specimen from Calayan.

Ardetta sinensis (Gm.).

From Calayan only, where a live bird was brought to us October 23. Local name, "rat."

Polionetta zonorhyncha (Swinh.).

Anas zonorhyncha Salvadori, Cat. Bds., XXVII, p. 211.

On December 7 a dozen birds of this species rested on a small river near the beach, and a single female was killed. This is probably its most southern capture. Bill jet black with a broad tip of bright yellow; most of the nail black; irides tan brown; legs and feet light salmon; nails black; webs dusky.

Querquedula querquedula (Linn).

A male in ragged plumage was collected October 29 on Calayan.

Nettium crecca (Linn.).

Querquedula crecea Whitehead, Ibis, 1899, p. 501 (Benguet Province).

Secretary Worcester killed two males in Bulacan, Luzon, in January, 1903. A male, October 26, and a female, November 10, were killed on Calayan.

Fuligula fuligula (Linn.).

Salvadori says of this species: "Accidental in the Malay Archipelago (Philippines and Borneo)." I believe, however, that it is a regular fall and winter visitant to our northern islands at least. We have specimens from the Laguna de Bay, Luzon, and it was common on Calayan considering the scant accommodation for ducks. I have seen numbers of them in Quinta Market, Manila. Parties of from two to five could usually be found on a small river or some of the carabao wallows, where they feed on small fresh-water mollusks or the larvæ of frogs.

Mareca penelope (Linn.); Salvadori, Cat. Bds., XXVII, p. 231.

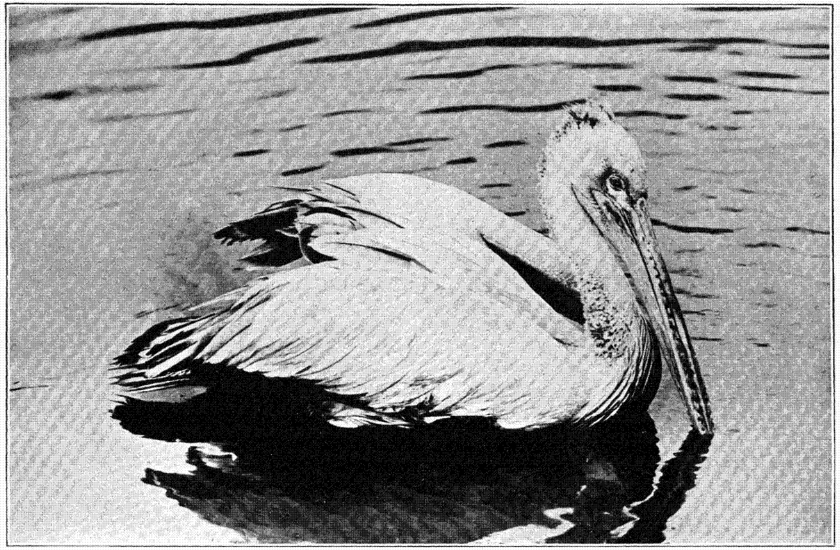
A male from Calayan, November 26. No more were seen. Previously unrecorded from the Philippines.

Spatula clypeata (Linn.).

One specimen from Calayan. "Dulumpapa" is the name used for any species of the duck tribe.

Pelecanus philippensis Gm.

The Philippine pelican has been recorded but rarely from the Islands and probably it is strictly confined to fresh-water marshes and lakes



PELECANUS PHILIPPINENSIS.

of the largest islands. Possibly it occurs on Luzon only. Whitehead did not meet with it, and neither the Steere expedition nor the Menage expedition obtained a specimen. A specimen of this species in the Museum was killed by Secretary Worcester in Tarlac Province, Luzon, February 22, 1904. The two accompanying plates of the pelican are from photographs of a live bird owned by Secretary Worcester.

PHALACROCORAX CARBO (Linn.).

Calayan. The first specimen was seen and killed October 26. This bird retains some white feathers of the young plumage, and another, taken November 11, is nearly pure white below. After this date three or four cormorants took up quarters along the river. Known as "casili," although this name belongs properly to the snake bird (*Plotus*). "Dalumpapa" and "papa" also are used as names for the cormorant by people of Calayan.

CIRCUS SPILONOTUS Kaup; Sharpe, Cat. Bds., I, p. 58.

About a dozen marsh hawks were collected on Calayan. Two of these are nearly adult and seem to be *C. spilonotus*. Some of the young birds agree with Sharpe's description of the young of *C. æruginosus*, but after reading what Grant says I believe these birds are the young of *spilonotus*. (Cf. Grant, Ibis, 1895, p. 437.) A small *Circus* from Ticao and three from Calayan are probably immature examples of *C. melanoleucus*, though we have no description of the young bird.

PITHECOPHAGA JEFFERYI Grant.

The Philippine Museum has acquired by exchange a male of this fine eagle. It is said that the bird came from Albay Province, Luzon. Señor Andres Celestino tells me that it was taken alive and kept for some time in a cage. This seems quite probable, as the tail is badly broken and the primaries are clipped. Chord of culmen, 2.90; depth of upper mandible at base of culmen, 1.46; width of upper mandible where cere meets tomium, 0.66; tarsus, 3.88; tail, about, 13; wing over, 20. I feel reasonably certain that I fired at a bird of this species at Irisan. I believe there is no positive record of its having been taken in Luzon.

ACCIPITER GULARIS (Temm. and Schl.).

This little hawk was fairly common on Calayan and easily killed in the fringe of "butun" trees along the beach. The species seems to have been migrating, as I saw none after October 4. One of these birds killed September 22 had met with a curious accident. A twig about 5 inches long and one-eighth inch in diameter had passed through a fold of skin back of the wing and about an inch of the twig protruded above. I imagine the stick was picked up when the hawk struck at some bird or lizard.

ASTUR CUCULOIDES (Temm.); Sharpe, Cat. Bds., I, p. 115, Pl. IV, fig. 2; McGregor, Bull. Phil. Mus., No. 3, p. 15.

As this species seems to be new to the Philippines I should state that the record is based upon a single specimen from Cagayancillo Island identified for me by Dr. Richmond. Bill blue black, greenish at base; cere orange; feet light orange; nails black; iris very dark brown. The stomach contained a lizard.

SPIZAËTUS LIMNAËTUS (Horsf.); Sharpe, Cat. Bds., I, p. 273.

A male specimen killed by us on Lubang in November.

SPIZAËTUS PHILIPPENSIS Gurney; Sharpe, Cat. Bds., I, p. 261 (footnote).

This species is to be added to list of Irisan, Benguet, birds. At Mariveles also we collected a male in February, 1902. In the description in Catalogue of Birds, fourth line from bottom, "thighs and toes" should read "thighs and tarsi."

BUTASTUR INDICUS (Gm.).

Abundant on Calayan. On September 18 and again on the 22d there were large flocks of this species sailing and circling overhead fully 200 yards high. Over forty were counted in one flock. Before these dates none had been seen. On October 14 I noted numbers flying low down, and killed one. Again on October 17 and 18 great numbers passed overhead in long, straggling bands flying in one direction. After this the species was often seen, and one bird was taken in a trap set for fruit thrushes. Native name, "coo-yab′."

FALCO PEREGRINUS Tunst.

A female from Calayan; others seen. This, like the various species of *Circus*, is called "ma-ma-óo."

PANDION HALIAËTUS (Linn.).

A female taken at Puerto Galera, Mindoro, in December. A mounted specimen in the Museum was taken in the vicinity of Manila. Secretary Worcester killed another over some marsh land near Manila. This species seems to be unrecorded from Luzon.

HALIAËTUS LEUCOGASTER (Gm.).

Observed on Fuga and Calayan.

NINOX MINDORENSIS Grant.

No. 1767, adult male, Philippine Museum Collection. Puerto Galera, Mindoro. Collected December 2, 1902, by R. C. McGregor and A. Celestino.

Description.—Top of head, neck, and sides of neck narrowly barred with buff; feathers of throat with broad blackish shaft stripes; a large and conspicuous white area on each side of throat. Most of the under parts tawny buff with narrow brown bars and touches of white; lighter and whiter posteriorly; under tail coverts white. On scapulars and greater coverts large white spots, roundish in form on the latter. Tail dark brown with about eight narrow buff bars. The feathers below eye and of ear coverts are elongated and decomposed, the tips of longest feathers being merely hairs. Wing, 6.30; tail, 3.50; tarsus, 1.19; culmen, from base of bill, 0.76.

This example appears to be the second known specimen of *Ninox mindorensis.* The type, a female, was collected by Whitehead "in the lowlands about the base of Monte Dulungan, in Mindoro." Judging from Grant's description of the female (Ibis, 1896, p. 463), the sexes of this species are similar. The bird is so different from *N. philippinensis* that I took it to be a young bird at first. Dr. Richmond examined our specimen and confirmed my identification.

NINOX PHILIPPINENSIS Bp.

An immature male from Aparri, August 8, appears to be of this species. The bird came aboard our steamer in the evening.

NINOX JAPONICA (Temm. and Schl.); Grant, Ibis, 1896, p. 141 (Fuga).

Several specimens from Calayan, where it is called "cok-cok," are identical with three from Fuga and with one from Cuyo, the latter identified by Dr. Richmond.

OTUS[1] CUYENSIS, new species.

Scops sp. McGREGOR, Bull. Phil. Mus., No. 3, p. 15.

Type.—No. 1900, adult male, light phase, Philippine Museum Collection. Cuyo Island, Paragua Province, P. I. Collected January 12, 1903, by R. C. McGregor and A. Celestino.

Description.—Feathers of head and neck heavily streaked with blackish brown, the edges more or less notched with whitish and light rufous; "horns" also blackish, but edges rufous; back dark rufous, finely speckled with blackish, clearer rufous on upper tail coverts. Each outer scapular with a large white spot on outer web followed by a blackish spot on tip and bordered toward base by a dark brown line. Chin and upper throat whitish with narrow brown shaft stripes, the webs marked more or less with cinnamon; remainder of under parts dark cinnamon, more or less cross-barred with white and dark brown, each feather with a blackish brown shaft stripe; the coloration is heaviest across the upper breast owing to the greater width of the shaft stripes and reduction of the white areas; middle of abdomen almost pure white; the flank feathers with narrow shaft lines and wide white bars; thighs rufous brown; wings mostly sandy cinnamon more or less mottled with brown; outer web of primaries regularly notched with five or six spots of white or whitish cinnamon bordered with dark brown; similar notches on secondaries but less prominent owing to darker color of spots. Quills below brownish with slightly lighter irregular and almost obsolete bars. Bastard wing with similar light notches on outer web; on the first feather the notches are white. Coverts generally uniform, but some feathers of median series with large white patches on outer webs. Tail about the same as back with about eight irregular and almost obsolete cross bars. The short plumulaceous feathers below and behind the eye are finely mottled with pale cinnamon, brown, and whitish. Behind ear the feathers of incomplete ruff broadly tipped with blackish brown forming a prominent dark band on side of head. Bristly feathers of lores whitish at bases; tips blackish brown; the longest about 0.80 of an inch; anterior bristles pale cinnamon. Tarsi feathered to bases of toes. Bill, cere, and feet dirty brown; nails, horn brown; irides, yellow. Total length, 9.25 inches; wing, 6.68; tail, 3.25; culmen, 0.89; tarsus, 1.38; middle toe with claw, 1.30.

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[1] *Otus,* Pennant. Cf. Stone, Auk, 1903, p. 275.

Type.—No. 2185, adult female, light phase. Philippine Museum Collection. Cuyo Island. Paragua Province, P. I. Collected March 5, 1903, by R. C. McGregor and A. Celestino.

Not essentially different from male, but white notches on primaries and bastard wing with a cinnamon wash. Total length, 9.25 inches; wing, 6.90; tail, 3.27; culmen (tip broken), 0.83; tarsus, 1.38; middle toe with claw, 1.26.

No. 1912, January 12, 1903, red phase.—The pattern of coloration is the same as in the light phase; white and whitish markings nearly all replaced by rufous; chin and upper throat and modified feathers below and behind eye almost clear rufous; blackish brown markings on breast very wide. A few whitish bars on abdomen and flanks.

I have been unable to define the specific characters for this owl, as we have on hand none of the other species except *O. longicornis,* with which of course this has nothing to do. Dr. Richmond, who examined specimens, writes: "Apparently new. Does *not* belong to the *lempigi* group, but more inclined to the *menadensis* style of coloration." This bird is abundant on Cuyo and is known as "bu-caó." The female type was flushed from the end of a hollow horizontal limb where she probably had a nest with eggs, as the ovary contained one egg soon to be deposited. I greatly regretted that we had to leave Cuyo the next day and were thus unable to get the eggs.

OTUS CALAYENSIS, new species.

Type.—No. 4058, adult male, light phase. Philippine Museum Collection. Calayan Island, P. I. Collected December 15, 1903, by R. C. McGregor and A. Celestino.

Description.—Lower parts dark cinnamon finely mottled with brown and white, a few feathers on throat and breast with dark-brown shaft stripes or spots; abdomen, flanks, and under tail coverts extensively white with very little cinnamon and the brown mostly reduced to fine speckles; thighs and tarsi cinnamon with cross lines of dark brown. Upper parts dark rufous finely mottled with blackish brown, producing a rather uniform coloration; lores, continuous with a line above eyes, white; tips of nasal and loral bristles dusky brown or cinnamon, the longest about 0.80 of an inch. Modified feathers of ear-coverts and below eye finely speckled with white and dark brown; behind this the incomplete ruff forms a conspicuous rufous band along side of head, but most of the feathers tipped with dusky brown. Feathers of "horns" dark rufous with irregular blackish spots toward tips. Wings coverts and scapulars about same as back, some of latter with a large white area on outer web. Exposed surface of quills and tail similar and a little lighter than back; tail crossed by several irregular lighter bars. Quills dusky brown; outer webs of outer primaries notched with pale cinnamon; inner webs of quills crossed by pale cinnamon bars which become very wide on secondaries. Tarsi feathered nearly to toes. Bill, feet, and nails brown, the feet with a slight green wash; irides bright yellow. Total length, 8.50 inches wing, 6.66; tail, 3.35; culmen, 0.84; tarsus, 1.23; middle toe with claw, 1.13.

Type of female.—No. 4077, Philippine Museum Collection. Calayan Island, P. I. Collected January 2, 1904, by R. C. McGregor and A. Celestino. In every way similar to the male. Total length, 8.00 inches; wing, 6.48; tail, 3.20; culmen, 0.83; tarsus, 1.24; middle toe with claw, 1.12. In the red phase the white markings except a few bars and freckles on abdomen and flanks are replaced by rufous.

This species is common enough on Calayan, but like all the small owls rather difficult to obtain. We took a pair in the light phase and a pair in the red phase of plumage. They were often heard calling in the woods and one flew into our house early one morning. Known to the natives as "cok-cok babuy," or pig owl, from a notion that it follows the wild hogs. Its call may be written "cok-cok," but *Ninox,* to which the natives apply the name "cok-cok," was silent except for a low chattering as it flew goatsucker-like after beetles. *Otus* was often found about houses near the forest. Its food was beetles and locusts.

EURYSTOMUS ORIENTALIS (Linn.).

Abundant on both Calayan and Fuga. Known as "ta-ga-tac."

ALCEDO ISPIDA Linn.

Rather scarce along the beach and rivers of Calayan. The native name given me for this kingfisher is "ma-min-di′-ta." *Ceyx* is lacking on Calayan.

HALCYON COROMANDUS (Latham).

More common on Calayan than on any other island we have visited. This species was found in deep woods and thickets, where it fed upon land mollusks and small land crabs. Known as "sa-luc-sac."

HALCYON CHLORIS (Bodd.).

Seen on Fuga only.

HALCYON LINDSAYI (Vigors).

One of my hunters killed a male of this species at his home in Silang, Cavite Province, Luzon, and brought it to Manila.

MEROPS BICOLOR Bodd.

Several seen on Fuga.

CAPRIMULGUS JOTAKA Temm. and Schl.; Bourns and Worcester, Minn. Acad. Sci., Oc. Papers, vol. 1, p. 42 (Palawan).

One female from Calayan, where it is extremely rare and shy. In Bulletin No. 1 I described the female plumage of *Caprimulgus griseatus.* I have now received from Mr. William Eagle Clarke his fourth paper on Negros birds and find that he had already described this plumage.

SALANGANA[1] MARGINATA (Salvad.).

Collocalia marginata McGREGOR, Bull. Phil. Mus., No. 1, p. 9; ibid, No. 3, p. 9.

This little swift, previously believed to be extremely rare, was abundant on Calayan during our entire stay. During the stormiest weather it was feeding for many hours and often in company with the smaller swallows. If the weather was calm large parties of swifts hawked high about the trees or played among the tree tops, occasionally turning a somersault with no apparent reason. At other times, when the wind was strong off shore, they were found hunting low near the beach, thus securing the protection of a thick fringe of trees which grew just above high water. During such times it was an easy matter to get near them, as they had little fear. I caught one with a butterfly net on a stormy day. Two were brought me alive which were said to have entered houses. Local name, "nido"; also called by some "sá-lum-pi-ping-aú," but the latter name refers more strictly to the various species of *Hirundo.*

In September most of the birds had the first primary but partly grown and this is true of a few up to the middle of November or later. Specimens with flesh-colored feet, which I take to be young of the year, do not differ from the adult in plumage, nor is this peculiar, for the nestling of *S. linchi* is almost exactly like the adult. In these two species a single plume grows from the upper side of the hind toe, the tip of the plume reaching about middle of claw.

Measurements of Salangana marginata.

No.	Sex.	Locality.	Date.	Wing.	Tail.
3383	Male	Calayan	Sept. 29	4.12	1.59
3465	do	do	Oct. 4	4.03	1.56
3503	do	do	Oct. 7	4.03	1.66
3724	do	do	Oct. 25.	4.20	1.80
3944	do	do	Nov. 19	4.08	1.59
3285	Female	do	Sept. 24	4.10	1.63
3464	do	do	Oct. 4	4.15	1.63
3505	do	do	Oct. 7	4.00	1.64
3671	do	do	Oct. 17	4.04	1.65
3913	do	do	Nov. 15	4.06	1.60

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[1] *Salangana,* Geoffr. St.-Hilaire. Cf. Richmond, Proc. U. S. N. M., Vol. XXV, p. 301.

CHÆTURA, species.

Large swifts were seen a few times on both Fuga and Calayan. During a heavy rain I saw a party flying low, but to my disgust they all took to the hills before I could come within range.

TACHORNIS INFUMATA (Scl.); McGregor, Bull. Phil. Mus., I, p. 5 (Ticao).

During a recent trip to Anao, Tarlac Province, we were fortunate in killing a bird of this species. A few others were seen, but it was by no means common. This fork-tailed swift is now recorded from Luzon for the first time.

EUDYNAMIS MINDANENSIS (Linn.).

Occurs on Calayan in same localities as the following species, but is much less common. The two species are known to the natives as "tu-aoó." Probably occurs on Fuga also, but during our short stop there we got samples of the larger species only.

There seems to be much variation among the females of this species as stated by Captain Shelley (Cat. Bds., XIX, p. 317). None of our female specimens is barred with white on upper tail coverts and tail as described by Shelley and they are probably young birds. However, that the very young female bird is black there is no doubt, as our series from Calayan contains females in which the black and spotted plumages are variously mixed. For example, a female taken October 2 has seven tail feathers uniform black and three tail feathers black barred with rufous buff. The uniform feathers are evidently of the old plumage. We have others in which the wings and body feathers show similar mixtures.

Whitehead got one male *Eudynamis* on Fuga which Grant was unwilling to refer to any described species, pointing out, however, that it was larger than *E. mindanensis*. On Calayan we found both large and small birds of this genus, the large ones being by far the more common. For this species I propose a new name.

ENDYNAMIS FRATER, new species.

Eudynamis sp. inc. GRANT, Ibis, 1896, p. 125 (Fuga).

Eudynamis mindanensis WHITEHEAD, Ibis, 1899, p. 394 (Fuga).

Specific characters.—Similar to *E. mindanensis* (Linn.), but much larger, the female more nearly uniform black above and with head more rufous.

Type.—No. 3697, male, Philippine Museum Collection. Calayan Island, Babuyanes, P. I. Collected October 22, 1903, by R. C. McGregor and A. Celestino.

Description.—Entire plumage glossy blue-black. Bill dusky greenish; irides crimson; legs and feet dark steel blue; nails brown. Total length, 19.25 inches; wing, 9.52; tail, 9.34; exposed culmen, 1.24; bill from nostril, 0.87.

Type.—No. 3201, female, Philippine Museum Collection. Calayan Island. Collected September 18, 1903, by R. C. McGregor and A. Celestino.

Description of female.—Above dark brown with a faint purple gloss on wing coverts and scapulars. Top of head, neck, and sides of face with shaft stripes of rufous; back, rump, and wings with small spots of tawny rufous. Quills and tail barred with same color. Lower parts buff (inclining to white on middle of breast) barred with black. A more or less distinct white band from base of bill to below posterior edge of ear coverts, wider posteriorly; below this a wide band of dark rufous mixed with black; ear coverts similar; chin and throat striped with black and tawny buff. Bill dusky greenish; irides crimson; legs and feet steel blue; nails brown. Total length, 19.25 inches; wing, 9.45; tail, 8.94; exposed culmen, 1.25; bill from nostril, 0.88.

Habitat.—Calayan and Fuga, Babuyanes group, P. I.

Measurements of Eudynamis mindanensis.

No.	Sex.	Locality.	Date.	Wing.	Tail.	Cul-men.	Bill from nostril.
1765	Male	Puerto Galera	Dec. 2	8.22	7.93	1.19	0.83
1717	do	do	Nov. 23	7.72	7.68	1.06	.74
1906	do	Cuyo	Jan. 13	8.34	7.75	1.06	.75
1972	do	Cagayancillo	Jan. 25	7.75	7.80	1.14	.76
2149	do	do	Feb. 13	7.62	7.35	1.20	.85
1217	do	Masbate	July. 1	8.46	7.94	1.20	.80
752	do	Ticao	Apr. 15	8.00	7.82	1.14	.78
3182	do	Calayan	Sept. 17	7.38	7.11	1.12	.76
3141	do	do	Sept. 15	7.45	7.15	1.16	.70
3270	do	do	Sept. 23	7.90	7.44	1.10	.80
3402	do	do	Sept. 30	7.25	7.18	1.11	.75
3444	do	do	Oct. 3	7.88	7.38	1.08	.80

Measurements of Eudynamis frater.

No.	Sex.	Locality.	Date.	Wing.	Tail.	Cul-men.	Bill from nostril.
3032	Male	Fuga (albino)	Sept. 1	9.36	8.80	1.26	0.85
3183	do	Calayan (albino)	Sept. 17	10.25	9.00	1.28	.93
3697	do	Calayan (type)	Oct. 22	9.52	9.34	1.24	.87
3139	do	do	Sept. 15	9.44	8.90	1.24	.87
3308	do	do	Sept. 25	9.19	10.00	1.32	.85
3612	do	do	Oct. 12	9.55	9.00	1.16	.89
3628	do	do	Oct. 13	9.08	9.08	1.25	.93

In spite of the great variation in the size of these cuckoos, as shown by the accompanying tables, I believe the large birds represent a distinct species. At least some of the variation in wing and tail measurements is due to the more or less incomplete growth of these parts. This species has a strong tendency to albinism. The following specimens are interesting:

No. 3140, male, Calayan, September 15, 1903.—In left wing one of the greater coverts and tip of longest primary white. In right wing white spot on one short tertiary and on one primary covert. One white feather on abdomen. One buff barred feather on abdomen.

No. 3612, male. Calayan, October 12, 1903.—Abdomen and side of hind neck each with one white feather.

No. 3032, male. Fuga, September 1, 1903.—Except wings and tail entire plumage with many white feather, sides of neck, breast, and abdomen more than half white. Six tail feathers more or less white toward base. Wings black except primary coverts, which are all white on one wing; nearly all white on the other wing; some of primaries mottled with white. One secondary pure white in each wing.

No. 3183, male; Calayan, September 17, 1903.—White much as in No. 3032 except wings and tail, which are normal except one partially white feather in right wing. Many feathers of abdomen and thighs and sides of breast black barred with buff. This seems to be an aberrant specimen.

No. 1703, female; Puerto Galera, Mindoro, November 22, 1902.—Is a specimen of *Centropus mindorensis* with a white feather in crown and two or three white feathers in breast. Captain Shelley notes a similar albinism in the British Museum specimen. Steere (List of Bds. and Mams. Philippines, p. 12) says of this species: "All black with bronze-green reflections. Head duller black. Wings slightly shaded with rufous, more apparent on edges of primaries." In this specimen of ours the head is quite as green as any other part and there is no rufous whatever on wings.

CUCULUS CANORUS Linn.

Five skins from Calayan, where the species is not rare. A half-grown female taken October 4 seems to indicate a late breeding season.

CENTROPUS VIRIDIS (Scop.).

Rather rare and shy on Fuga and Calayan. Usually travels through the tops of thick clumps of brush or hides in bamboo thickets. Local native name, "si-ga-cok′."

CORONE PHILIPPINA Bp.

Abundant on Fuga and I scarcely ever saw so many before as there are on Calayan. It is known as "uac-uac," and this name seems to be applied to the species in all the Islands. The above spelling is according to native style. In English I would write "wak," the "a" broad. Universally hated, as it spoils corn, eats small chickens, and carries off any fish or meat left unguarded. I have seen crows carry off young chickens, but can not say how much they injure crops.

CALORNIS PANAYENSIS (Scop.).

A flock of fifteen or twenty on Fuga, but curiously this common bird was not once seen on Calayan.

STURNIA VIOLACEA (Bodd.).

Abundant on Calayan for a short time. First seen October 8, when a flock of fifty or more were feeding in a fruit tree. Small parties also feeding in fruit-bearing bushes. None were noted after October 16. Local name, "bilit china."

STURNIA SINENSIS (Gm.).?

One specimen killed September 15 is apparently of this species, but lacks the tawny buff color of our Luzon specimen.

SPODIOPSAR SERICEUS (Gm.); Sharpe, Cat. Bds., XIII, pp. 44 and 665.
Heterornis servicea CASSIN, U. S. Japan Exp., Vol. II, p. 238, pl. 5, 1856.

A specimen from Calayan seems to be some sort of *Spodiopsar*, and possibly the above in winter plumage. The back of our bird is brown, not "light ashy-gray." Otherwise it agrees with the description in the Catalogue of Birds and with the plate referred to above, which is omitted from the synonyms in the catalogue.

ORIOLUS CHINENSIS Linn.

Recorded from Fuga by Grant, where we found it abundant. Also conspicuous on Calayan, where it is called "kee-aú," in imitation of its cry.

MUNIA JAGORI Martens.

Rare on Fuga and Calayan. In this species there is much variation in the extent of black on the lower parts and in the color of the neck. In No. 529, Mariveles, Bataan Province, Luzon, the black is continuous from chin to belly, the breast having only the sides chestnut; head and neck are almost uniformly blackish brown, the forehead black, however. In No. 2862, Irison, Benguet Province, the black of breast and belly are separated by the chestnut for a quarter of an inch and the neck is brown, not blackish. This is the most usual style of coloration and the variations may be due partly to age. At present I refer all of our specimens to *M. jagori.*

UROLONCHA EVERETTI (Tweed.).

Occurs sparingly in Calayan, where it is known as "bi-lit."

EMBERIZA SULFURATA Temm. and Schl.

First seen on Calayan early in November, during which month five were collected. Very few others were seen. It was difficult to get, as it frequented low brush and was put up more by accident than otherwise. Whitehead collected this species in Luzon.

FRINGILLA MONTIFRINGILLA Linn.; Sharpe, Cat. Bds., XII, p. 178.

A rare migrant to Calayan, where three males in winter plumage were taken. First seen October 29, when two were killed. The third one killed November 30. A few others seen. The genus is new to the Philippines.

CHRYSOMITRIS SPINUS (Linn.).

Two males and two females killed on Calayan November 27. No others were seen. This genus appears to be new to the Philippines.

Motacilla ocularis Swinh.

The specimen recorded from Lubang (Bull. Phil. Mus., No. 3, p. 10) is a young female in first winter plumage with the crown like the back and the white frontal band just indicated. We now have a female from Calayan in second winter plumage, killed October 10. In this specimen the black forms a narrow crescent on the breast.

Motacilla melanope Pall.

Common along the streams of Calayan. Sometimes found about towns.

Motacilla flava Linn.

Usually in flocks in clearings or open grassy spots. Taken on Calayan.

Limonidromus indicus (Gm.).

A female specimen from Calayan October 7. Measurements: Wing, 3.10; tail, 2.80; exposed culmen, 0.50; tarsus, 0.86. Balabac appears to be the only previous Philippine record for this species.

Anthus gustavi Swinh.

Specimens from Calayan, where it is not common. Found only in woods or thickets and never in flocks. Among our birds from Ticao I find a specimen of this species in fresh spring plumage. It was killed April 30. Omitted from list in Bulletin No. 1.

Anthus maculatus Hodgs.

A single male in fresh fall plumage was taken November 19 on Calayan. This specimen is more strongly olive above and the spots below are heavier than in April specimens from Benguet, Luzon. The spotted pipit has been recorded from Palawan and Luzon.

Anthus rufulus Vieill.

Specimens taken on Fuga and Calayan.

Anthus cervinus (Pall.).

This species has been recorded from Balabac, Luzon, and Mindanao. We now have a large series from Calayan, showing all stages of fall plumage. Some of these lack any trace of the fawn color and others have the color covering the whole side of the face and extending well onto the breast. Red-throated pipits were first detected November 3, but were probably present much earlier. They were found invariably in small flocks near town, squatting low in the short grass or feeding on refuse thrown out from the houses, where they perhaps picked up bits of meat and rice.

Cinnyris whiteheadi Grant.

Abundant on both islands visited. During September found feeding in the bananas and cocoanuts and difficult to kill. Later, however, with the flowering of various small bushes, this fine species was found to be abundant and numbers were obtained without trouble. Calayan and

Fuga specimens are in every respect like those of Luzon in the Museum. Males in immature plumage were found during our entire stay and enable me to trace the plumage development with some certainty. In young birds the plumage is much like that of the female, with the upper parts grayer and lacking much of the olive green.

The brilliant adult plumage is first indicated by a few scattered red feathers on belly, metallic purple feathers in throat, black feathers of back, and metallic green of rump. These areas do not develop with any great regularity or in fixed sequence. In one specimen, with but a touch of red on each side of forebreast and three or four green feathers in rump, the purple along sides of chin and throat and black on side of neck is developed far in advance of others, with the belly very extensively green. The first new feathers, however, usually appear somewhere in the large red patch of breast and the green of rump, then the throat, black of back, and lastly top of head. The molt of wing can not be followed with much satisfaction and seems to bear but a general relation to molt of the body plumage, but there is usually considerable red in the breast before any new wing feathers show. The coverts appear to be first to change, followed by the inner secondaries, though in some the inner primaries change earlier than the secondaries. The tail molt is usually under way before that of the wing. One female has a single bright red feather on side of breast. There is no doubt as to the sex of this specimen. The Calayan name for *Cinnyris* is "sa-uit′ sa-uit′."

DICÆUM PYGMÆUM (Kitt.).

Fairly abundant on both Calayan and Fuga.

ZOSTEROPS MEYENI Bp.

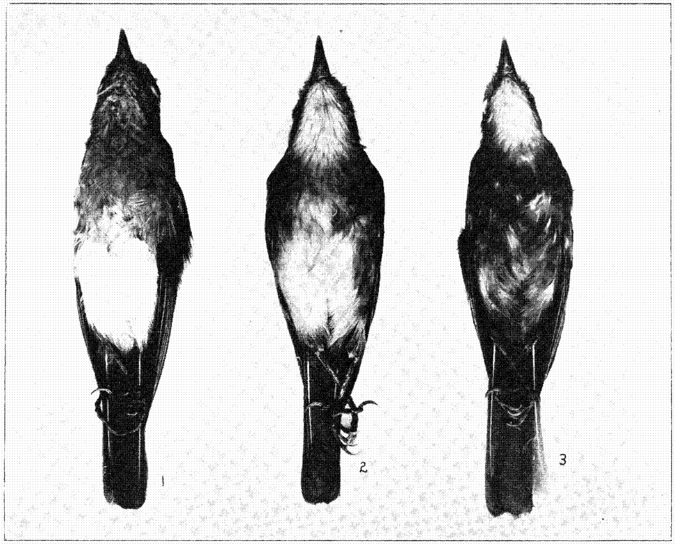
Abundant on Calayan, going about in small parties in the brush or at other times feeding in the high trees. There is some variation in the extent of yellow on the breast, but this is largely due to season. A skin from Benguet is very dingy, showing contact with smoke or burnt timber, just as has been observed in many United States birds. Name in Calayan, "ti-tit."

ZOSTEROPS FLAVISSIMA, new species.

Zosterops sp. inc., McGREGOR, Bull. Phil. Mus., No. 3, p. 11.

Specific characters.—Similar to *Z. aureiloris* Grant, but larger; upper parts lighter, top of head and sides of head and neck yellower.

Type.—No. 2110, male in freshly molted plumage. Philippine Museum Collection. Cagayancillo Island, Paragua Province, P. I. Collected February 7, 1903, by R. C. McGregor and A. Celestino. Upper parts bright olive green, perhaps slightly more yellow on crown and neck, the upper parts exactly as in *Z. meyeni* in fresh plumage. Lower parts rich golden yellow, of the same color as the chin and throat in *meyeni*, slightly paler posteriorly; sides of head and neck like crown,



1, HYLOTERPE ALBIVENTRIS ♀; 2, H. FALLAX ♀; 3, H. PHILIPPINENSIS ♀. (REDUCED.)

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flanks washed with olive; quills and coverts edged with same bright olive green as back, except first long primary and large feathers of bastard wing, which are blackish brown; inner webs of quills margined with white; under wing coverts white with pale, yellow wash; axillaries and edge of wing yellow, the latter darker; tail brown, edged above with olive green, the inner webs with narrow whitish margins. From gape to and below eye a black line; circle of eye feathers silky white; across the forehead and reaching eye on each side, a band of golden yellow shading into the color of the crown. Measurements of type: Length, 4.50; wing, 2.20; tail, 1.74; exposed culmen, 0.43; bill from nostril, 0.32; tarsus, 0.65. Female like male, possibly a trifle lighter below.

Measurements of 20 skins of each are as follows:

Males: Wing, 2.14–2.29 (average, 2.22); tail, 1.60–1.80 (average, 1.69; exposed culmen, 0.40–0.47 (average, 0.44); bill from nostril, 0.29–0.35 (average, 0.32); tarsus, 0.62–0.74 (average, 0.68).

Females: Wing, 2.11–2.27 (average, 2.17); tail, 1.58–1.75 (average, 1.65); exposed culmen, 0.40–0.46 (average, 0.43); bill from nostril, 0.30–0.34 (average, 0.32); tarsus, 0.63–0.80 (average, 0.68).

This species appears to be most nearly related to *Z. aureiloris*, but is distinguished by its larger size. I have compared *flavissima* with a March specimen of *aureiloris* from Mariveles and the two species are distinct. Our few skins of *Z. nigrorum* are in bad plumage, but that species is evidently much darker and greener than the new species.

Grant gives the following dimensions for *Z. aureiloris*:

"*Adult male.*—Total length about 4.5 inches, wing 1.85–2.05, tail 1.4–1.5, tarsus 0.6.

"*Adult female.*—Total length about 4.5 inches, wing 1.95–2.05, tail 1.4–1.5, tarsus 0.6."

Abundant on Cagayancillo, where it is known as "tammig."

PARDALIPARUS ELEGANS (Less.).

A number of skins from Calayan.

SAXICOLA ŒNANTHE (Linn.); Seebohm, Cat. Bds., V, p. 391.

A male bird killed near our house on Calayan October 24 is probably of this species in winter plumage. I believe this genus is unrecorded from the Philippines.

HYLOTERPE FALLAX, new species.

Specific characters.—Nearly related to *H. philippinensis* Walden, but at once distinguished by the paler and less extensive yellow on under surface and the heavier shaft streaks on throat.

Type.—No. 4040, adult male, Collection Philippine Museum, Calayan Island, Babuyanes, P. I. Collected December 9, 1903, by R. C. McGregor and A. Celestino.

Description.—Head above grayish brown, very slightly olive; the rest of the upper parts, including tail and exposed edges of all wing feathers, dark olive green; ear coverts and region around eye grayish brown, a little lighter than top of head (in many specimens, probably immature, this area has a faint reddish wash); chin and throat white with distinct dusky shaft lines, bordered posteriorly by an obscure crecentric, dusky band; sides of breast and flanks dusky olive green; breast, abdomen, and under tail coverts yellow; anteriorly paler, but on under tail coverts nearly as rich sulphur yellow as in *H. philippinensis;* thighs yellow; edge of wing, under wing coverts, and axillaries white, washed with yellow; inner edge of quills edged with white. Bill black, legs plumbeous blue; nails flesh. Total length, 6 inches; wing, 3.19; tail, 2.60; tarsus, 0.83; exposed culmen, 0.60.

Type.—No. 3485, adult female, Collection Philippine Museum. Calayan Island, P. I. Collected October 6, 1903, by R. C. McGregor and A. Celestino.

In all respects like the male. Total length, 6 inches; wing, 3.12; tail, 2.70; tarsus, 0.88; exposed culmen, 0.56.

Ten males measure: Wing, 3.11–3.30 (average, 3.19); tail, 2.57–2.84 (average, 2.64); exposed culmen 0.55–0.63 (average, 0.59); tarsus, 0.77–0.88 (average, 0.83).

Ten females measure: Wing 3.00–3.28 (average, 3.14); tail, 2.48–2.80 (average, 2.60); exposed culmen, 0.54–0.62 (average, 0.58); tarsus, 0.76–0.89 (average, 0.82).

This well-marked race was perhaps derived from *H. philippinensis.* The latter species, however, has the entire lower breast, abdomen, and under tail coverts rich sulphur yellow. A comparison with *H. albiventris* is unnecessary, as that species has the posterior under surface white, with but a faint wash of yellow on under tail coverts. The majority of our specimens, which I take to be slightly immature, have the bill dark brown, the lower mandible a little the lighter. The variation in plumage is slight, consisting in the sides of face and breast band being washed more or less with faint reddish and in a slight variation in the strength of shaft streaks on throat. Some examples have a little more olive on crown and in others the exposed margins of inner primaries are washed with reddish brown, both of which points I take to be signs of slight immaturity.

This new form was abundant on Calayan and was found in thickets along the beach as well as in the deepest forests. Occasionally seen singly, but more often in bands of four to six or seven. Numerous specimens were secured without difficulty, as it was quite fearless, passing from the ground or low brush to the high trees and down again with little regard to the collector's presence. It was often killed by mistake, as it had a habit of perching motionless in low, thick brush or on the branch of a tall tree, when its plain colors made it difficult to identify.

For this reason I think its name appropriate. The native name is "sa-mot ba-sit'," which means "little Hypsipetes."

OTOMELA LUCIONENSIS (Linn.).

Abundant on Fuga and Calayan. On the latter island known as "ta-lal'."

ACANTHOPNEUSTE BOREALIS (Blas.).

Occurs on both Fuga and Calayan, but not common.

ACROCEPHALUS SORGOPHILUS (Swinh.); Seebohm, Cat. Bds., V, p. 94 (Amoy).

A little reed warbler collected at Taguig on the Laguna de Bay, January 19, 1902, is probably of this rare species known only from China. Dr. Richmond says that the specimen comes nearer to *A. sorgophilus* than to anything else he can find. Actual comparison with the type is probably necessary. The bird was killed in a bunch of reeds over the water and others could probably be found in the same locality.

ACROCEPHALUS ORIENTALIS (Temm. and Schl.).

Chinese reed warblers were very abundant on Calayan. September 25 and for a week after the guava and pangdan bushes were fairly alive with them. We have other specimens from Pandacan, a suburb of Manila (identified by Dr. Richmond), and from Taguig, on the Laguna de Bay.

LOCUSTELLA OCHOTENSIS (Midd.).

Recorded from Marinduque by Steere and from Mindoro by Grant. In January, 1902, we got two specimens in rice fields at Pandacan. These were identified by Dr. Richmond. On Calayan we secured fifteen examples.

LOCUSTELLA FASCIOLATA Seebohm, Cat. Bds., V, p. 109, Pl. V.

One specimen from Calayan is referred to this species.

HORORNIS SEEBOHMI (Grant).

We found this bird not uncommon at Irisan, where we took eight specimens. The young plumage is undescribed.

Juvenile.—No 2615. Sex? Philippine Museum Collection. Irisan, Benguet. Collected May 14, 1903, by R. C. McGregor and A. Celestino. Similar to the adult, but entire upper parts including head of a uniform olive rufous (in the adult forehead and crown are dark-russet brown without the olive wash); superciliary stripe, sides of face, and entire under parts strongly suffused with dirty olive, paler on chin and throat, and with a slight rufous tinge on posterior parts. Wings and tail as in the adult.

HORORNIS CANTURIENS (Swinh.).

Dr. Richmond identifies a skin from Mariveles as of this species. Previously recorded for Luzon, but rare. We got about a dozen specimens on Calayan.

HORORNIS MINUTA (Swinh.), Sharpe, Hand List Bds., IV, p. 236.
Cettia minuta SEEBOHM, Cat. Bds., V, p. 141.

Four specimens from Calayan are closely related to this species, but without other specimens I can not make a positive identification.

CHIMARRHORNIS BICOLOR Grant; McGregor, Bull. Phil. Mus., No. 3, p. 12.

In my last paper I noted a pair of this rare species. My native hunters, who remained in Benguet for some time after my return to Manila, brought down two additional specimens. An adult male was taken June 22. The plumage of the other is worth noting, as it is a young male of the year.

No. 2900, Irisan, Benguet, June 9, 1903.—The plumage is dark slate, almost dead black, a little paler on abdomen; wing coverts and feathers of lower parts tipped with gray; tail and wings are new and like those of the adult. New adult plumage shows in a few new feathers on head, back, breast, and abdomen.

CISTICOLA EXILIS (Vigs. and Horsf.).

Occurs on both islands visited. On Fuga it was found in dry, grassy fields and killed in small guava bushes. On Calayan it is confined to the rice fields and is known by the name "tic-tic-rú-bo," the first half of which is probably derived from its song.

TURDUS PALLIDUS Gm.; Sharpe, Hand List Bds., IV, p. 138.
Merula pallida SEEBOHM, Cat. Bds., V, p. 274.

One specimen from Calayan agrees fairly well with a single skin from the market at Nagasaki, Japan. The species is at once distinguished by the pale breast and flanks and the broad white tips of outer tail feathers.

TURDUS CHRYSOLAUS Temm.; Sharpe, Hand List Bds., IV, p. 139.
Merula chrysolaus SEEBOHM, Cat. Bds., V, p. 275.

First observed November 28, when one of my hunters managed to mangle a specimen. After this date numbers were seen, usually in guavas and other thick brush. Extremely wild, so that only a dozen or so were secured. Known to the natives as "pir-pi-rú-ca."

TURDUS OBSCURUS Gm.; Sharpe, Hand List Bds., IV, p. 140.
Merula obscura SEEBOHM, Cat. Bds., V, p. 273.

But two specimens of this paler species were killed on Calayan.

PETROPHILA MANILLA Bodd.

In Calayan this species is fairly common about town, perching on stone walls, fences, or buildings.

CALLIOPE CALLIOPE (Pall.).

Calayan is the first island where we have found this species. On November 8 our first specimen was taken in a trap by a native boy. A few days later it became abundant. In the early morning and for a short time before dark its whistling call was heard on every side. Though common this species is by no means easy to secure in good shape, as it stays in heavy underbrush and is constantly on the move. If the hunter waits patiently near a patch of guavas or bamboo thicket he will hear a rather low but clear two-syllable whistle. This may be rendered by the Tagalo name "piloy" perhaps as well as by any other word. This is repeated four or five times with great deliberation, then follows a low throaty "chuck," also repeated several times. *Calliope* has a pretty, low, warbling song, but does not often favor the listener with his song. Even the "piloy series may not be repeated by the same bird for half an hour. However, another bird at some distance will answer with this plaintive and far-carrying call note. To get sight of one means a long wait, and then it is not at all likely that you can more than see the bird. At the least noise it flies into the thickest part of its retreat. I was unable to find anyone on Calayan who had a name for the species. A specimen was purchased in Quinta Market, Manila, February 29, 1904.

HYPSIPETES FUGENSIS Grant; Grant, Ibis, 1896, p. 113.

Grant's statement that "the top of head and neck are *brown, like the back,* instead of dark, slate gray" is misleading. The back is brown, the feathers faintly edged with dark olive brown, and while the head and neck are brown the feathers are edged with dark slate-gray, which makes considerable contrast between neck and mantle. The birds of Fuga and Calayan are identical, except that the latter have slightly longer bills. Bills from nostrils, in eight males from Fuga, measure 0.63–0.71 (average, 0.68). In the same number of males from Calayan I find 0.69–0.78 (average, 0.72). Ten specimens of each sex from Calayan taken in October yield the following measurements:

Males: Wing, 4.70–5.10 (average, 4.93); tail, 4.50–5.04 (average, 4.80); culmen, 1.02--1.10 (average, 1.07); tarsus, 0.82–0.97 (average, 0.91).

Females: Wing, 4.64–4.80 (average, 4.73); tail, 4.35–4.64 (average, 4.53); culmen, 0.98–1.10 (average, 1.02); tarsus, 0.84–0.94 (average, 0.91).

A specimen from Fuga has two white feathers in the crown. No. 3797, a male from Calayan, has the lower parts except chin and throat crossed by narrow obsolete light bars and the mantle and back are similarly barred. Otherwise the plumage is normal.

The molt of body plumage was about over when we reached the Islands, but the wings and tail often contained both old and new feathers up to the first of November.

The illustration of the "foot of *Hypsipetes psaroides,* to show tarsal envelope without scutes" (Cat Bds., VI, p. 35), by no means represents the condition in *H. fugensis,* for the tarsi of this species are certainly scutellated in the specimens of our large series. Four specimens of *H. amaurotis* from Nagasaki, Japan, also show scutellated tarsi. According to the key to genera of the sub-family Brachypodinæ (t. c. p. 2.), this character puts these species in the genus *Ixocincla*. Neither can *Hypsipetes* and *Iole* be distinguished on the character of strongly or scantily developed rictal bristles. The tarsi of the latter, at least in the species *mindorensis* and *philippinensis*, are booted, which is perhaps enough to separate that genus from *Hypsipetes*.

Common on Fuga and even more abundant on Calayan, where the species fairly swarms. Wherever there are bushes or trees fruit thrushes may be heard on every side. Their song differs considerably from that of *Iole philippinensis* and is pitched in a higher key. They have harsh call and alarm notes similar to those of *Iole*. During October and November this species forms an important item of food for the people of Calayan. They are easily trapped, especially if the fruit of a small red pepper, of which these bulbuls are especially fond, is used for bait. They feed extensively on guavas during December and January. One native easily took 15 to 20 birds in a forenoon, but if the traps are not visited often the trapper finds nothing but a pair of legs for his pains. The crow is commonly reputed to be the culprit, and with good reason I believe. We caught a crow in one of our traps and at another time a hawk, *Butastur indicus*. I found these bulbuls an agreeable addition to my table in an island where fresh food is scarce at the best. Its name among the people of Calayan is "samot."

PERICROCOTUS CINEREUS Lafres.

One specimen, October 23. Calayan. Rare and hard to secure, as it travels in the highest trees and is always on the move.

HEMICHELIDON GRISEISTICTA (Swinh.).

A few specimens from Calayan, where it is rare.

MUSCICAPULA LUZONIENSIS Grant.

A few specimens from Calayan, where it is rare and shy. Mr. Richmond has called my attention to a misprint in the tarsus measurements of this species, which is given as "1.7" in the original description (Ibis, 1894, p. 506). For two males from Irisan, Benguet, I find this measurement to be 0.70 and 0.72 of an inch, respectively. Females measure about the same. Grant (loc. cit.) states that the upper parts are "without any trace of bluish." All of our specimens are certainly blackish blue above.

Juvenile plumage.—No. 2878, female, Irisan, Benguet, June 7, 1903. No. 2939, male, Irisan, June 17, 1903.

Description of young male.—Upper parts dusky brown, each feather with a rusty yellowish buff spot, on the top of head and nape rather streaked; upper tail coverts rusty; sides of head like top without any indications of the adult markings; wings brown, the coverts bluish, each feather with a large buff spot; chin, throat, and upper breast white with a wash of buff; breast more heavily washed with buff, each feather with black edges, producing a more or less striped effect; belly and under tail coverts white; lining of wing, axillaries, and flanks yellowish buff. In the back of this specimen there are several new bluish slate feathers of the adult plumage.

The female specimen is very much like the male, but upper parts slightly dull olive and washed rather than spotted with rusty buff. The tail is brown like the wings. Bill dusky above, lighter at tip, lower mandible and angle of mouth yellowish; legs white, nails light gray.

CHELIDON DASYPUS Bp.

Two specimens from Calayan. These agree well with Sharpe's description of Japanese birds (Cat. Bds., Vol. X, p. 93). Both our birds are females. In one of October 31 the feathers of hind breast and belly have narrow but distinct dusky shaft stripes. In the other of November 2 these feathers are pure white with a slight gray wash along sides. In both the rump feathers show dusky shafts. Bill black; irides dark brown; legs pale flesh; nails light brownish.

This species was rare on Calayan and seemed to affect the company of *Hirundo striolata,* sailing slowly about usually well out of reach. It was only by extreme patience that the two examples were taken.

CLIVICOLA RIPARIA (Linn.).

Two specimens from Calayan, taken October 30 and November 6 respectively, are undoubtedly of this species, which seems to be a new record for the Philippines. Both are immature birds, showing the whitish to wing coverts, secondaries, upper tail coverts, and rump said to be characteristic of the young (cf. Ridgway, Man. N. A. Bds., p. 463, 1887).

HIRUNDO GUTTURALIS Scop.

Obtained on Fuga and Calayan. On the latter island it was abundant, hawking from early morning till late in the evening and in all weathers. "Salumpipingau" is the native name of the swallow on Calayan.

HIRUNDO STRIOLATA (Boie).

Seen only near the town on Calayan, where it appeared irregularly. Two or three were seen October 15, but on the 17th during a light rain 50 to 100 flew low about the church and rested on the roof. The next day and for several days not one was seen. Again on the 29th several were collected, and so on during our stay; at times feeding over rice fields or open grassy places at considerable altitude; rarely resting on the ground. On one such occasion I killed seven with a single load of No. 12 shot.

I am following previous Philippine records in referring the mosque swallow of Calayan to *H. striolata,* but there are several points in which our birds do not agree with the description. In the key to the species of *Hirundo, japonica* and *striolata* come together under "stripes on rump very distinct" (Cat. Bds., Vol. X, p. 125), but on page 162, where the type of *striolata* is described, we find "lower back and rump light chestnut rufous with narrow blackish shaft lines, not very distinct." Now in all of our twenty-five adult birds the black shaft lines are very distinct. The wing measurements are intermediate between those given for *japonica* and *striolata,* thus being near *Hirundo substriolata* Hume. It is also stated that *striolata* has "no rufous on base of forehead." In our specimens there is a narrow but distinct frontal line of rufous passing back over lores and eye to large triangular patch on side of head. Philippine birds need to be compared with typical specimens.

No. 3788, immature male.—Calayan Island, P. I., October 31, 1903.

Pattern and color same as in adult, except back and top of head browner with less metallic blue; chestnut patch on side of head lighter; rump creamy white with three or four chestnut feathers of adult plumage; tail and wings browner and lacking blue gloss; tertiaries and coverts more or less tipped with whitish; the ground color of under parts is not much different from the adult, but the characteristic shaft stripes are everywhere lighter and greatly reduced, becoming obsolete on under tail coverts and absent on axillaries and lining of wing, except along edge of wing where there are a few narrow lines. Bill, legs, and nails black.

Measurements of Hirundo striolata.

No.	Sex.	Locality.	Date.	Wing.	Tail.	Tarsus.
3681	Male	Calayan	Oct. 17	4.64	3.72	0.54
3696	do	do	Oct. 22	4.82	3.98	.60
3746	do	do	Oct. 29	4.74		.61
3747	do	do	do	4.84	3.95	.55
3672	Female	do	Oct. 17	4.72	3.75	.61
3676	do	do	do	4.76	3.65	.58
3750	do	do	Oct. 29	4.75	3.84	.60
3957	do	do	Nov. 21	4.79	3.79	.60
3958	do	do	do	5.02	3.86	.59

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